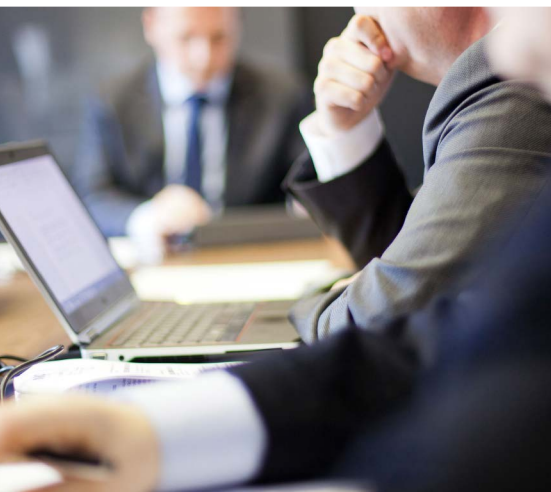


# AKO

## **COMERCIAL CATALOGUE 2016**

REGULATION AND CONTROL OF  
TEMPERATURE FOR REFRIGERATION,  
INDUSTRY AND CONSTRUCTION

# OUR WORK, YOUR WARRANTY



**AKO**



**AKO** THE LEADING COMPANY IN COMPREHENSIVE REGULATION AND CONTROL OF INDUSTRIAL AND COMMERCIAL REFRIGERATED FACILITIES IN THE REFRIGERATION, CONSTRUCTION AND INDUSTRIAL SECTOR

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Current workforce of over 140 employees, completely customer oriented

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More than 8.000 m<sup>2</sup> for our Headquarter and Warehouse

---

A company with over 30 years of growth

---

10% of our turnover is invested in R&D&I

---

Product portfolio >3.000 equipments and >500 projects

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ISO9001 Quality Assurance and ISO14001 Environmental Management Systems

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Presence in over 90 countries and international projects

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We design, manufacture and supply solutions for markets using international standards With over 140 employees, AKO has a strong 30-year track record in the international market with subsidiaries in USA and Mexico. We do business in over 90 countries, and one of our top goals is increasing and consolidating our international presence.

**AKO** strives and offers the best quality performance and equipment. All of their units are handled and designed in a safe manner to:

- Optimize energy efficiency in our installations
- Integrate the best solutions and equipment at the installation
- Ensure health, safety, and respect to the environment

All in a safe and reliable manner.

At **AKO** we believe in the future. We partner with our clients to develop joint engineered solutions and allocate every year 10% of sales to R&D.

# AKOPRO

## THE MOST COMPLETE SOLUTION FOR COLD ROOM STORES



### PROPlus 3PH **BASIC**

- Access to protective elements from the front part of the equipment.
- Management of all of the elements that make up the cold room: Condenser unit, solenoid, electronic expansion valve, fans, evaporator, defrost, cold room light, door control.
- Integrated RS485 communication for connection to AKONet.



### PROCool

- A single panel for installations from 3 to 25 A.
- Easier to use than a traditional panel thanks to its large display, reduced parameter menus synoptic and hot keys.
- Maximum safety thanks to its thermoplastic housing with IP65 protection degree.

# AKOSOFT

## MONITORING AND REMOTE MANAGEMENT FOR REFRIGERATION FACILITIES



### GSM MODULE

GSM module for alarm management and notifications via SMS. Easily configurable from its own App for Smartphones.



### MODBUS / TCP

Connect devices in different physical locations via TCP/IP, thanks to the new MODBUS/TCP converter



### WEB SERVER

The reliable solution for easy and secure remote management / monitoring

- Easy start-up
- Configuration in three simple steps
- Accessible from Tablets, PC and Smartphones



More information:

[www.akosys.com](http://www.akosys.com)

Tel. (+34) 902 333 145

# FAMILY

## **AKOSOFT**

Page 11

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Software  
Webserver  
GSMAlarm  
Accessories

## **AKODRIVE**

Page 15

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DUODrive

## **AKOCONTROL**

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Thermostats, Small Format  
Temperature Controllers, Standard Panel  
Temperature Controllers, 4 relays  
PID Controllers  
Temperature Controllers, wall Mounting  
Temperature Controllers, DIN Rail Mounting  
Large Frontal Temperature Controllers  
AKOSOL- Solar Energy Thermometers  
Industrial Control  
AKOTIM - Modular Controls (HACCP)  
Probes and Accessories

## **AKOCAM**

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CAMCtrl – Controllers for Cold Room Stores  
CAMRegis – Data-loggers  
CAMAlarm – Alarms for Cold Room Stores  
CAMGas – Gas Detector  
COMBIAAlarm – Gas Detector + Trapped  
Person Alarm  
CAMCaombi - Controller + Alarm

## **AKOPRO**

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PROPlus - Electronic panel for Single-phase  
PROPlus 3PH - Electronic panel for three-phase

## **AKOCABLE**

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Constant Wattage Parallel Cable  
Self-regulating Parallel Cable  
Series Cable  
Drum, Tank and Compressor Heaters  
Accessories

## **AKOKIT**

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Kit for Pipes  
Kit for Tanks and Hopper Walls  
Kit for Underfloor Heating  
Kit for Roofs and Drainage Channels  
Solutions for Refrigeration

## **AKOELEC**

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Alarms for Lifts  
Detectors and Timers  
AKOTUBOS – Protectors for Fluorescent Lamps

## **AKONIVEL**

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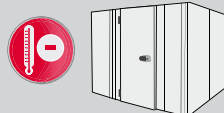
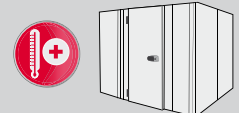

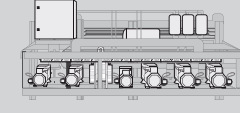
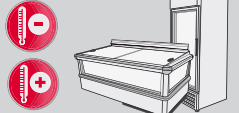
















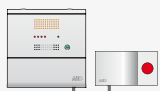



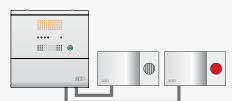

Switches for Liquids  
Switches for Solids  
Liquid Control Relays

General conditions of sale

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Families

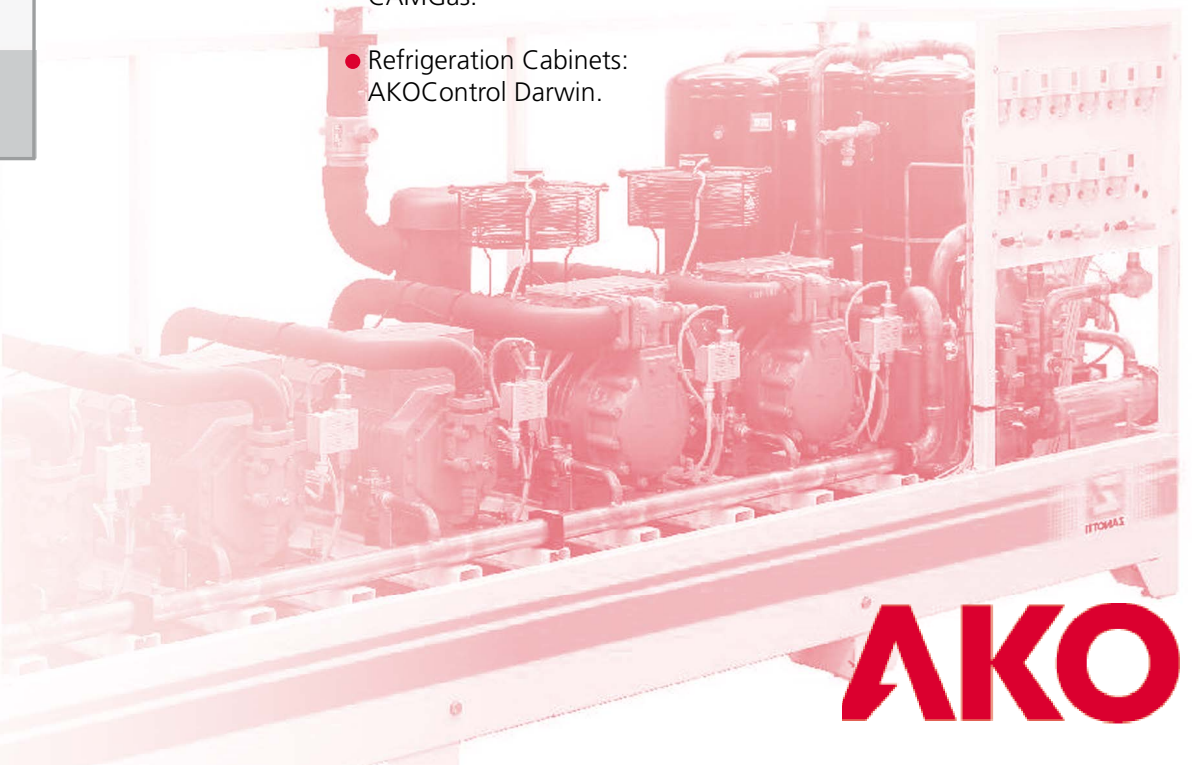
Warranty conditions

Negative Cold Room	Positive Cold Room	Work Halls	Compressor Racks	Refrigeration Cabinets
				
<b>Datalogger</b>	<b>Datalogger</b>	<b>Datalogger</b>	<b>Alarms</b>	<b>Thermometer</b>
 <b>CAMRegis</b> Temperature and humidity loggers	 <b>CAMRegis BASIC</b> Temperature loggers, humidity and events ( 2 channels)	 <b>CAMRegis</b> Temperature and humidity loggers	 <b>CAMGas</b> Gas detector alarm	 <b>AKOControl Darwin</b> The most suitable and flexible range of temperature and humidity control
<b>Standard:</b> CE 37/2005 EN-12830	<b>Standard:</b> EN-12830	<b>Standard:</b> EN-12830	<b>Standard:</b> EN 378-3	<b>Standard:</b> CE 37/2005
				
 <b>CAMRegis BASIC</b> Temperature loggers, humidity and events ( 2 channels)	<b>Alarms</b>  <b>CAMGas</b> Gas detector alarm	 <b>CAMRegis BASIC</b> Temperature loggers, humidity and events ( 2 channels)		
<b>Standard:</b> EN-12830	<b>Standard:</b> EN 378-3	<b>Standard:</b> EN-12830		
				
<b>Alarms</b>				
 <b>CAMAlarm</b> Trapped person alarm				
<b>Standard:</b> EN 378-1				
				
 <b>CAMGas</b> Gas detector alarm				
<b>Standard:</b> EN 378-3				
				
 <b>COMBIAlarm</b> Gas detector + Trapped person alarm				
<b>Standard:</b> EN 378-1 / EN 378-3				
				

## Integral solution for refrigerated facilities

For optimum safety in refrigeration, **AKO** recommends:

- Negative Cold Rooms:  
CAMRegis, CAMAlarm, CAMGas y COMBIAlarm.
- Positive Cold Rooms:  
AKOControl Darwin y CAMGas.
- Work Halls:  
CAMRegis y CAMGas.
- Compressor Racks:  
CAMGas.
- Refrigeration Cabinets:  
AKOControl Darwin.



# AKO

Reference	Pack	Page
AKO-10123	10 Units	26
AKO-10223	10 Units	26
AKO-10323	10 Units	26
AKO-1212	100 m.(A)	69
AKO-12192	1 Unit	69
AKO-12192	1 Unit	70
AKO-12193	1 Unit	69
AKO-12193	1 Unit	70
AKO-1221	100 m (A)	74
AKO-12292	1 Unit	74
AKO-13012	12 Units	20
AKO-13020	12 Units	20
AKO-13023	12 Units	20
AKO-13112	12 Units	20
AKO-13120	12 Units	20
AKO-13123	12 Units	20
AKO-14327	12 Units	36
AKO-14540	1 Unit	28
AKO-14545	1 Unit	28
AKO-14545-C	1 Unit	28
AKO-14560	1 Unit	29
AKO-145601	1 Unit	29
AKO-145601	1 Unit	29
AKO-14605	12 Units	24
AKO-14615	12 Units	24
AKO-14721	12 Units	32
AKO-14722	12 Units	37
AKO-14723	12 Units	37
AKO-14801	10 Units	34
AKO-14901	–	44
AKO-14901	48 Units	49
AKO-14902	–	44
AKO-14903	–	44
AKO-14903	48 Units	49
AKO-14906	–	44
AKO-14906	48 Units	49
AKO-14910	120Units (B)	43
AKO-14915	–	44
AKO-14917	6 Units	44
AKO-14918	10 Units	44
AKO-14931	12 Units	48
AKO-14940	–	44
AKO-14940	4 Units	48
AKO-15223	6 Units	37
AKO-15224	6 Units	36
AKO-15225	6 Units	34
AKO-15226	6 Units	34
AKO-15227	6 Units	34
AKO-1530	5 Units	41
AKO-15301A	1 Unit	41
AKO-15400	1 Unit	30
AKO-15401	1 Unit	32
AKO-15402	1 Unit	32
AKO-15403	1 Unit	32

Reference	Pack	Page
AKO-15410	1 Unit	31
AKO-15413	1 Unit	31
AKO-15415	1 Unit	31
AKO-15430	1 Unit	31
AKO-15437	1 Unit	31
AKO-15440	1 Unit	30
AKO-15450	1 Unit	30
AKO-15451	1 Unit	32
AKO-15452	1 Unit	32
AKO-15453	1 Unit	32
AKO-15460	1 Unit	31
AKO-15463	1 Unit	31
AKO-15465	1 Unit	31
AKO-15480	1 Unit	31
AKO-15487	1 Unit	31
AKO-15490	1 Unit	30
AKO-15561	–	44
AKO-15571	–	29
AKO-15571	1 Unit	29
AKO-15572	1 Unit	29
AKO-155801	–	44
AKO-155802	–	44
AKO-155803	–	44
AKO-155807	–	44
AKO-155815	–	44
AKO-15582	–	44
AKO-155830	–	44
AKO-15584	–	44
AKO-15585A	–	44
AKO-15586	100m (A)	43
AKO-15586	–	44
AKO-15586	100m (A)	49
AKO-15586-H	–	44
AKO-15586H	100m (A)	43
AKO-15587	–	44
AKO-15590	1 Unit	28
AKO-155908	10Units	43
AKO-15595	5 Units	41
AKO-15595	–	44
AKO-15597	–	44
AKO-15598	–	44
AKO-15599	1 Unit	41
AKO-15599	–	44
AKO-15601	–	44
AKO-15602	–	44
AKO-15606	–	29
AKO-15606	1 Unit	29
AKO-15613	1 Unit	47
AKO-156131	1 Unit	47
AKO-15626	1 Unit	47
AKO-15626-1	1 Unit	47
AKO-15627	1 Unit	47
AKO-15633	1 Unit	47
AKO-156331	1 Unit	47

Reference	Pack	Page
AKO-156332	1 Unit	54
AKO-15640	1 Unit	59
AKO-15643	1 Unit	59
AKO-15645	1 Unit	57
AKO-15646	1 Unit	57
AKO-15648	1 Unit	57
AKO-15650	1 Unit	60
AKO-15651	1 Unit	60
AKO-15651-3	1 Unit	60
AKO-15652	1 Unit	60
AKO-15652-3	1 Unit	60
AKO-15658	1 Unit	60
AKO-15659	1 Unit	60
AKO-156632	1 Unit	55
AKO-15673	1 Unit	55
AKO-15680	1 Unit	60
AKO-15681	1 Unit	60
AKO-15682	1 Unit	60
AKO-15683	1 Unit	60
AKO-15690	1 Unit	58
AKO-15690-EVC	1 Unit	58
AKO-15691	1 Unit	58
AKO-15691-EVC	1 Unit	58
AKO-15692	1 Unit	58
AKO-15692-EVC	1 Unit	58
AKO-15693	1 Unit	58
AKO-15693-EVC	1 Unit	58
AKO-15697	1 Unit	57
AKO-15697-EVC	1 Unit	58
AKO-15699	1 Unit	58
AKO-15699-1	1 Unit	58
AKO-15699-EVC	1 Unit	58
AKO-15703	10 Units	49
AKO-15704	1 Unit	49
AKO-15705	–	44
AKO-15705	100m (A)	48
AKO-15724	4 Units	48
AKO-15725	4 Units	48
AKO-15726	4 Units	48
AKO-15740	1 Unit	49
AKO-15742	1 Unit	49
AKO-15750	1 Unit	49
AKO-15752	1 Unit	49
AKO-15780	1 Unit	49
AKO-15782	1 Unit	49
AKO-17520	1 Unit	61
AKO-17521	1 Unit	61
AKO-17630	1 Unit	61
AKO-17631	1 Unit	61
AKO-17632	1 Unit	61
AKO-17633	1 Unit	61
AKO-17634	1 Unit	61
AKO-17635	1 Unit	61
AKO-17636	1 Unit	61

Reference	Pack	Page
AKO-17637	1 Unit	61
AKO-1901	50 Units (B)	82
AKO-1903	30 m. (B)	82
AKO-21202	1 Unit	16
AKO-21203	1 Unit	16
AKO-21204	1 Unit	16
AKO-21205	1 Unit	16
AKO-21206	1 Unit	16
AKO-21208	1 Unit	16
AKO-21212	1 Unit	16
AKO-21215	1 Unit	16
AKO-21223	1 Unit	16
AKO-21231	1 Unit	16
AKO-21238	1 Unit	16
AKO-21245	1 Unit	16
AKO-21259	1 Unit	16
AKO-21272	1 Unit	16
AKO-5008	1 Unit	12
AKO-5008	1 Unit	49
AKO-5012	1 Unit	12
AKO-5012	1 Unit	13
AKO-52042	1 Unit	14
AKO-520421	1 Unit	14
AKO-520422	1 Unit	14
AKO-52043	1 Unit	13
AKO-52043	1 Unit	12
AKO-520431	1 Unit	13
AKO-52044	1 Unit	14
AKO-520441	1 Unit	14
AKO-52061	1 Unit	51
AKO-520611	1 Unit	51
AKO-52062	1 Unit	50
AKO-52062	1 Unit	51
AKO-52062	1 Unit	54
AKO-52062	1 Unit	54
AKO-52062	1 Unit	54
AKO-52062	1 Unit	55
AKO-520622	1 Unit	50
AKO-52063	1 Unit	51
AKO-520631	1 Unit	51
AKO-52064	1 Unit	51
AKO-520641	1 Unit	51
AKO-52066	1 Unit	51
AKO-520661	1 Unit	51
AKO-52067	1 Unit	50
AKO-520671	1 Unit	50
AKO-52068	1 Unit	50
AKO-52069	1 Unit	50
AKO-520691	1 Unit	50
AKO-52201	1 Unit	53
AKO-52202	1 Unit	53
AKO-52203	1 Unit	53
AKO-522034	1 Unit	54
AKO-52204	1 Unit	53
AKO-522044	1 Unit	54

Reference	Pack	Page
AKO-52205	1 Unit	53
AKO-522054	1 Unit	54
AKO-52210	1 Unit	53
AKO-522104	1 Unit	54
AKO-52211	1 Unit	53
AKO-52212	1 Unit	53
AKO-52213	1 Unit	53
AKO-52213	1 Unit	54
AKO-52214	1 Unit	53
AKO-52214	1 Unit	54
AKO-52215	1 Unit	53
AKO-52215	1 Unit	54
AKO-52250	–	50
AKO-52250	1 Unit	51
AKO-52250	12 Units	53
AKO-52250	12 Units	54
AKO-52250	12 Units	54
AKO-52250	12 Units	55
AKO-5231	100 m.(A)	69
AKO-5234	150 m(A)	70
AKO-52341	150 m.(A)	71
AKO-52342	150 m(A)	70
AKO-52344	150 m(A)	70
AKO-52346	75 m(A)	70
AKO-5237*	100 m. (A)	72
AKO-5238	25 Units	69
AKO-5238	25 Units	70
AKO-52383	25 Units	70
AKO-52383	25 Units	71
AKO-5239	25 Units	74
AKO-52401	25 Unit	82
AKO-52402	100/25 Units	82
AKO-52403	1 Unit	82
AKO-52404	25 Units	82
AKO-5255A	10 Units	91
AKO-5256A	10 Units	91
AKO-53112	25 Units	95
AKO-53114	12 Units	95
AKO-53120	12 Units	95
AKO-53124	1 Unit	95
AKO-53125	1 Unit	95
AKO-53126	1 Unit	95
AKO-53127	1 Unit	95
AKO-53161	1 Unit	95
AKO-53162	1 Unit	96
AKO-53165	1 Unit	95
AKO-53166	1 Unit	96
AKO-53171	6 Units	94
AKO-53172	6 Units	94
AKO-53173	18 Units	94
AKO-53173	18 Units	94
AKO-53181	12 Units	94
AKO-53182	12 Units	94
AKO-53183	12 Units	94

Reference	Pack	Page
AKO-53184	12 Units	94
AKO-53185	12 Units	94
AKO-53186	12 Units	94
AKO-53187	12 Units	94
AKO-53188	12 Units	94
AKO-5330	12 Units	96
AKO-5335/115	1 Unit	96
AKO-5335/230	1 Unit	96
AKO-5335/24	1 Unit	96
AKO-5335/24	1 Unit	96
AKO-54041A	12 Units	89
AKO-54043	12 Units	89
AKO-5404C	12 Units	89
AKO-5405A	12 Units	89
AKO-5406	24 Units	90
AKO-54061	12 Units	90
AKO-5409A	8 Units	89
AKO-5413	6 Units	90
AKO-54301	12 Units	43
AKO-54426	6 Units	91
AKO-5442B	6 Units	91
AKO-549505	25Units	90
AKO-617089	25 Units	92
AKO-617097	25 Units	92
AKO-61904	25 Units	92
AKO-619901	50 Units	92
AKO-619902	50 Units	92
AKO-619907	50 Units	92
AKO-70115	100 m(A)	72
AKO-70130	100 m(A)	72
AKO-70140	50 m(A)	72
AKO-70192	10 Units(B)	72
AKO-70194	5 Units	71
AKO-70194	5 Units	72
AKO-71010	100 m(A)	71
AKO-71015	100 m(A)	71
AKO-71020	100 m(A)	71
AKO-71025	100 m(A)	71
AKO-71030	100 m(A)	71
AKO-71035	100 m(A)	71
AKO-71050	100 m(A)	71
AKO-71092	1 Unit	71
AKO-71092	1 Unit	72
AKO-71092	1 Unit	73
AKO-71110	100 m(A)	73
AKO-71115	100 m(A)	73
AKO-71120	100 m(A)	73
AKO-71125	100 m(A)	73
AKO-71130	100 m(A)	73
AKO-71135	100 m(A)	73
AKO-71150	100 m(A)	73
AKO-71212	–	75
AKO-71212P	–	74
AKO-71214	–	75



Reference	Pack	Page
AKO-71214P	–	74
AKO-71214T	100 m (A)	74
AKO-71216	–	75
AKO-71216P	–	74
AKO-71218	–	75
AKO-71218P	–	74
AKO-71218T	100 m (A)	74
AKO-71241	–	75
AKO-71243	–	75
AKO-71245	–	75
AKO-71250	–	76
AKO-71251	–	76
AKO-71252	–	76
AKO-71253	–	76
AKO-712545	100m. (A)	70
AKO-71255	–	76
AKO-71258	–	76
AKO-71261	–	76
AKO-71263	–	76
AKO-71265	–	76
AKO-71267	–	76
AKO-712699	5Units	82
AKO-71301A	1 Unit	78
AKO-71302A	1 Unit	78
AKO-71321	1 Unit	78
AKO-71323	1 Unit	78
AKO-71325	1 Unit	78
AKO-71370	10 Units	77
AKO-71371	10 Units	77
AKO-71372	10 Units	77
AKO-71373	10 Units	77
AKO-71374	10 Units	77
AKO-71375	10 Units	77
AKO-71376	10 Units	77
AKO-71377	10 Units	77
AKO-71378	10 Units	77
AKO-71379	10 Units	77
AKO-71382	10 Units	77
AKO-71383	10 Units	77
AKO-71384	10 Units	77
AKO-71385	10 Units	77
AKO-71386	10 Units	77
AKO-71387	10 Units	77
AKO-71388	10 Units	77
AKO-71389	10 Units	77
AKO-71492	1 Unit	74
AKO-71492	1 Unit	75
AKO-71493	1 Unit	74
AKO-71493	1 Unit	75
AKO-71494	1 Unit	75
AKO-71494	1 Unit	76
AKO-71495	1 Unit	76
AKO-71515	1 Unit	79
AKO-71535	1 Unit	79

Reference	Pack	Page
AKO-71608	1 Unit	81
AKO-71609	1 Unit	81
AKO-71611	1 Unit	81
AKO-71613	1 Unit	81
AKO-71614	1 Unit	81
AKO-71615	1 Unit	81
AKO-71616	1 Unit	81
AKO-71620	5 Units	82
AKO-71625	5 Units	82
AKO-71628	20 Units (B)	82
AKO-71629	1 Unit	82
AKO-71630	1 Unit	82
AKO-71635	10 Units (B)	82
AKO-71666	1 Unit	82
AKO-71667	1 Unit	42
AKO-71668	1 Unit	42
AKO-71678	10 Units	82
AKO-717425	1 Unit	41
AKO-717425	1 Unit	82
AKO-717440	1 Unit	82
AKO-717441	5 Units	82
AKO-717445	1 Unit	82
AKO-71751	1 Unit	82
AKO-718510	1 Unit	81
AKO-718520	1 Unit	81
AKO-71863	2 Units	79
AKO-71864	2 Units	79
AKO-71866	2 Units	79
AKO-71867	2 Units	79
AKO-80004A	1 Unit	43
AKO-80008	1 Unit	44
AKO-80013	1 Unit	48
AKO-80013	1 Unit	49
AKO-80015	1 Unit	42
AKO-80016	1 Unit	42
AKO-80018	1 Unit	44
AKO-80019	1 Unit	44
AKO-80020	1 Unit	42
AKO-80024	1 Unit	12
AKO-80025	25 Units	27
AKO-80030	1 Unit	42
AKO-80031	1 Unit	42
AKO-80032	25 Units	27
AKO-80033	25 Units	31
AKO-80033	25 Units	32
AKO-80034T	2 Units	80
AKO-80035T	1 Unit	80
AKO-80036T	1 Unit	80
AKO-80037T	1 Unit	80
AKO-80038T	1 Unit	80
AKO-80039	1 Unit	12
AKO-80039	1 Unit	44
AKO-80039	1 Unit	49
AKO-80040	1 Unit	48

Reference	Pack	Page
AKO-80040	1 Unit	49
AKO-80041	1 Unit	80
AKO-80077	–	29
AKO-80077	1 Unit	29
AKO-80080	1 Unit	12
AKO-80080	1 Unit	13
AKO-ACS-10	1 Unit	84
AKO-ACS-20	1 Unit	84
AKO-ACS-40	1 Unit	84
AKO-ACS-80	1 Unit	84
AKO-CANAL-100M	1 Unit	86
AKO-CANAL-150M	1 Unit	86
AKO-CANAL-200M	1 Unit	86
AKO-CANAL-50M	1 Unit	86
AKO-D10123	10 Units	27
AKO-D10223	10 Units	27
AKO-D10323	10 Units	27
AKO-D14012	12 Units	20
AKO-D14023	12 Units	20
AKO-D14023-C	12 Units	20
AKO-D14112	12 Units	21
AKO-D14120	12 Units	21
AKO-D14120-2	12 Units	21
AKO-D14123	12 Units	21
AKO-D14123-2	12 Units	21
AKO-D14123-2-RC	12 Units	21
AKO-D14212	–	21
AKO-D14220	–	21
AKO-D14223	–	21
AKO-D14312	12 Units	22
AKO-D14320	12 Units	22
AKO-D14323	12 Units	22
AKO-D14323-C	12 Units	22
AKO-D14412	12 Units	22
AKO-D14412-RC	12 Units	22
AKO-D14420	12 Units	22
AKO-D14423	12 Units	22
AKO-D14423-RC	12 Units	22
AKO-D14423P	12 Units	22
AKO-D14423P-RC	12 Units	22
AKO-D14601	10 Units	24
AKO-D14602	10 Units	24
AKO-D14610	10 Units	25
AKO-D14612	10 Units	25
AKO-D14621	10 Units	25
AKO-D14622	10 Units	25
AKO-D14622-C	10 Units	25
AKO-D14631	10 Units	25
AKO-D14632	10 Units	25
AKO-D14632-C	10 Units	25
AKO-D14641	10 Units	26
AKO-D14642	10 Units	26
AKO-D14642-C	10 Units	26
AKO-D14724	12 Units	33

Reference	Pack	Page
AKO-D14725	12 Units	33
AKO-D14726	12 Units	33
AKO-D14726-C	12 Units	33
AKO-D14727	12 Units	33
AKO-D14728	12 Units	33
AKO-D14729	12 Units	33
AKO-D14729-C	12 Units	33
AKO-D14810	10 Units	35
AKO-D14810-R	10 Units	35
AKO-D14820	10 Units	35
AKO-D14820-R	10 Units	35
AKO-D14918	10 Units	44
AKO-D16323	10 Units	23
AKO-D17023	1 Units	23
AKO-DH-10M3-METAL	1 Unit	85
AKO-DH-10M3-PLAST	1 Unit	85
AKO-DH-2M3-PLAST	1 Unit	85
AKO-DH-3M3-METAL	1 Unit	85
AKO-DH-5M3-METAL	1 Unit	85
AKO-DH-5M3-PLAST	1 Unit	85
AKO-DV-10M3-METAL	1 Unit	85
AKO-DV-10M3-PLAST	1 Unit	85
AKO-DV-1M3-METAL	1 Unit	85
AKO-DV-1M3-PLAST	1 Unit	85
AKO-DV-2M3-METAL	1 Unit	85
AKO-DV-2M3-PLAST	1 Unit	85
AKO-DV-5M3-METAL	1 Unit	85
AKO-DV-5M3-PLAST	1 Unit	85
AKO-EC-100	1 Unit	87
AKO-EC-150	1 Unit	87
AKO-EC-200	1 Unit	87
AKO-EC-250	1 Unit	87
AKO-EC-300	1 Unit	87
AKO-EH-10	1 Unit	84
AKO-EH-20	1 Unit	84
AKO-EH-40	1 Unit	84
AKO-EH-80	1 Unit	84
AKO-MPC-12M	1 Unit	87
AKO-MPC-4M	1 Unit	87

Reference	Pack	Page
AKO-MPC-8M	1 Unit	87
AKO-SAFE	1 Unit	84
AKO-SC-100M2	1 Unit	87
AKO-SC-20M2	1 Unit	87
AKO-SC-40M2	1 Unit	87
AKO-SC-60M2	1 Unit	87
AKO-SC-80M2	1 Unit	87
AKO-SE-10M2	1 Unit	86
AKO-SE-20M2	1 Unit	86
AKO-SE-40MS	1 Unit	86
AKO-SE-60MS	1 Unit	86
AKO-SR-10M2	1 Unit	86
AKO-SR-20MS	1 Unit	86
AKO-SR-5M2	1 Unit	86
AKO-TEJADO-15M	1 Unit	86
AKO-TEJADO-30M	1 Unit	86
AKO-TEJADO-45M	1 Unit	86
AKO-TEJADO-60M	1 Unit	86
AKO-TI10-METAL	1 Unit	84
AKO-TI10-PLAST	1 Unit	84
AKO-TI20-METAL	1 Unit	84
AKO-TI20-PLAST	1 Unit	84
AKO-TI40-METAL	1 Unit	84
AKO-TI40-PLAST	1 Unit	84
AKO-TI80-METAL	1 Unit	84
AKO-TI80-PLAST	1 Unit	84
AKO-TOLVA-12M2	1 Unit	85
AKO-TOLVA-20M2	1 Unit	85
AKO-TOLVA-30M2	1 Unit	85
AKO-TOLVA-5M2	1 Unit	85
AKO-TUBO 14T	125 Units	92
AKO-TUBO 15T	25 Units	92
AKO-TUBO 18B	25 Units(B)	92
AKO-TUBO 18G	25 Units(B)	92
AKO-TUBO 18R	25 Units(B)	92
AKO-TUBO 18T	25 Units	92
AKO-TUBO 18V	25 Units(B)	92
AKO-TUBO 20T	25 Units	92
AKO-TUBO 21T	125 Units	92

Reference	Pack	Page
AKO-TUBO 28T	125 Units	92
AKO-TUBO 35T	125 Units	92
AKO-TUBO 36B	25 Units(B)	92
AKO-TUBO 36G	25 Units(B)	92
AKO-TUBO 36R	25 Units(B)	92
AKO-TUBO 36T	25 Units	92
AKO-TUBO 36V	25 Units(B)	92
AKO-TUBO 40T	25 Units	92
AKO-TUBO 58B	25 Units(B)	92
AKO-TUBO 58G	25 Units(B)	92
AKO-TUBO 58R	25 Units(B)	92
AKO-TUBO 58T	25 Units	92
AKO-TUBO 58V	25 Units(B)	92
AKO-TUBO 65T	25 Units	92
AKO-TUBO 70T	25 Units	92
AKOTIM-11ARTE	12 Units	38
AKOTIM-11ARTEB	12 Units	38
AKOTIM-11ATE	12 Units	38
AKOTIM-11TE	12 Units	38
AKOTIM-12ARTE	12 Units	38
AKOTIM-12ARTEB	12 Units	38
AKOTIM-12ATE	12 Units	38
AKOTIM-12TE	12 Units	38
AKOTIM-13ARTE	12 Units	39
AKOTIM-13ARTEB	12 Units	39
AKOTIM-13ATE	12 Units	39
AKOTIM-13TE	12 Units	39
AKOTIM-21ARTE	12 Units	39
AKOTIM-21ARTEB	12 Units	39
AKOTIM-21ATE	12 Units	39
AKOTIM-21TE	12 Units	39
AKOTIM-22ARTE	6 Units	40
AKOTIM-22ARTEB	6 Units	40
AKOTIM-22ATE	6 Units	40
AKOTIM-22TE	6 Units	40
AKOTIM-23ARTE	6 Units	40
AKOTIM-23ARTEB	6 Units	40
AKOTIM-23ATE	6 Units	40
AKOTIM-23TE	6 Units	40

(A) The meters of packaged material are the standard ones; however, we reserve the right to supply in different lengths those indicated.

(B) Minimum, indivisible pack units.

**AKOSOFT**

Remote management and monitoring  
for Refrigeration systems



# AKONet

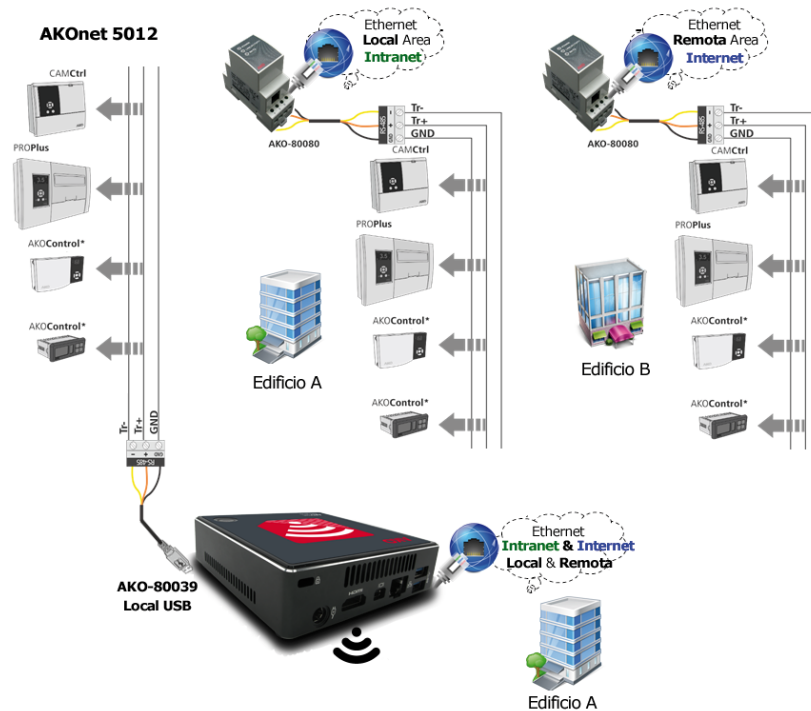
## Remote management and monitoring

Security and simplicity in the remote management and monitoring of refrigeration facilities controlled by AKO equipment.

AKOSOFT offers specific monitoring and remote solutions for refrigeration facilities controlled by AKO equipment, fitted with communications for the following ranges AKOCONTROL, AKOCAM, AKOPRO and AKODUO.

AKONET is a straightforward and intuitive remote solution for WEB environments. You can access it from any browser, on a PC, laptop, tablet or mobile.

It allows monitoring using temperature/moisture of the complete history for the equipment connected, for changes made to any parameter on this equipment and for receiving a in the e-mail.



### Highly intuitive use

- No need for advanced IT knowledge
- Monitoring of facility, receipt of notifications via email and changing of device settings
- Reports manager and automated tasks planner
- It allows the connection of devices placed at different locations thanks to the RS485 converter
- Modbus/TCP (AKO-80080).

### Configuration in 3 simple steps

- Start-up without screen or keyboard from computer's own Wi-fi network (possibility to connect if deemed necessary).
- Very simple and easy to use set-up wizard in only 3 steps from WEB environment

### Reliability

- Specifically developed software for maintenance of refrigeration facilities
- Hardware and software solution already installed and tested in order to minimise post-sales service
- Ongoing monitoring of facility (24/7) with a exclusively dedicated computer
- TeamViewer installed for remote connection

### Compatibility of AKOSOFT

AKO-5012: AKOCONTROL, AKOCAM (CAMCtrl, CAMRegis, CAMAlarm and CAMCombi), AKOPRO (PROPlus) and AKODUO / AKO-5008: CAMRegis

Reference	Description	Family	Packaging
AKO-5008	SOFTRegis, software management and monitoring recorders CAMRegis	Software	1 Unit
AKO-5012	AKONET Web Server for management and monitoring (conv. mod. USB/RS485 included)	Software	1 Unit
AKO-80039	Converter module RS485/USB	Accessories	1 Unit
AKO-80080	Converter module RS485/TCP	Accessories	1 Unit
AKO-80024	Communication system repeater RS485	Accessories	1 Unit
AKO-52043	3G modem for sending GSM alarm messages (compatible with AKONet)	Software	1 Unit

## AKONet Web Server

Security and simplicity in the remote management and monitoring of refrigeration facilities

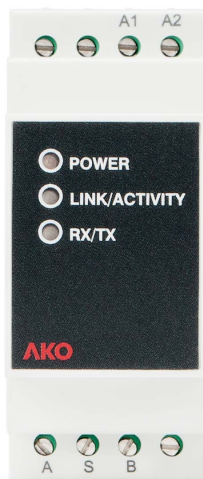


- Highly intuitive, no need for advanced IT knowledge.
- Configuration in 3 easy steps from your own WiFi network and from any browser.
- Hardware and software solution already installed and tested in order to minimise post-sales service.
- Ongoing monitoring of facility (24/7) with a exclusively dedicated computer.
- Powerful processor (i3) and hard disk (SSD) for fast, safe and silent running.

Reference	Description	Family	Packaging
AKO-5012	Akonet Web Server Hardware & Software	Software	1 Unit
AKO-52043	GSM Modem for sending SMS alarm notification messages	Accessories	1 Unit
AKO-520431	3m extension antenna for GSM Modem (AKO-52043)	Accessories	1 Unit

## RS485 MODBUS/TCP Converter

RS485 Converter MODBUS/TCP (Ethernet RJ-45)



It allows you to connect MODBUS DEVICES TO computers remotely via a TCP/IP data network

- IP configurable by user via a Windows application.
- Connects one or more MODBUS devices (slave) to a remote server (master).
- Making use of customer data network
- Local area (intranets) or remote (internet) networks

Reference	Description	Family	Packaging
AKO-80080	RS485 Converter MODBUS/TCP	Accessories	1 Unit

## GSM Alarm BASIC

GSM module for alarm management and notifications via SMS



Module for sending alarm notifications via SMS, needing only one voltage-free contact to trigger the alarm and send it.

- Fully user configurable using a android configuration app or SMS.
- 4 separate inputs for alarm (voltage-free contact).
- 2 output relays for remote control of devices via app or SMS.
- Up to 10 telephones assignable.
- IP30

Reference	Description	Family	Packaging
AKO-52044	GSM Alarm BASIC	GSM alarms	1 Unit
AKO-520441	2m extension antenna for GSM Module (AKO-52044)	Accessories	1 Unit

## GSM Alarm

GSM module for alarm management in unprotected environments



Module for sending alarm notifications via SMS, needing only one voltage-free contact to trigger the alarm and send it.

- Fully user configurable using a Windows configuration app or SMS.
- 4 separate inputs for alarm (voltage-free contact).
- 2 output relays for remote control of devices via SMS.
- Up to 10 telephones assignable.
- IP65

Reference	Description	Family	Packaging
AKO-52042	GSM Alarm	GSM alarms	1 Unit
AKO-520421	3m extension antenna for GSM Module (AKO-52042)	Accessories	1 Unit
AKO-520422	Replacement battery for GSM Module (AKO-52042)	Accessories	1 Unit

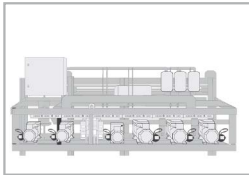
# AKODRIVE

Generation of controllers for  
compressor racks



## DUODrive

Standard frequency converters for HVAC applications



### Low voltage frequency converters

Smart and intuitive frequency converters to improve energy efficiency. It provides tools to calculate energy savings, investment payback period, commissioning and diagnosis and remote access.

Application: Refrigerated facilities.

- EMC filters for buildings, class C2 (1st environment)
- RFI filters
- Interactive maintenance and diagnosis wizard
- Fault logger
- Reduction of audible noise
- Special parameter menu for HVAC applications
- Variable self-inductance reactances: up to 25% less harmonics
- Variety of references from 0.75 to 37 kW
- IP21

Reference	Description	Family	Pack
AKO-21202	DuoDrive, 0,75 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21203	DuoDrive, 1,1 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21204	DuoDrive, 1,5 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21205	DuoDrive, 2,2 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21206	DuoDrive, 3 kW, 380 Vac with Modbus Communication & RFI filters	DUODrive	1 Unit
AKO-21208	DuoDrive, 4 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21212	DuoDrive, 5,5 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21215	DuoDrive, 7,5 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21223	DuoDrive, 11 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21231	DuoDrive, 15 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21238	DuoDrive, 18,5 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21245	DuoDrive, 22 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21259	DuoDrive, 30 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit
AKO-21272	DuoDrive, 37 kW, 380 Vac with Modbus Communication & RFI filter	DUODrive	1 Unit



## AKOCONTROL

Thermometers, thermostats and  
temperature and humidity controllers



**AKOCONTROL Darwin**

Data table of controllers for Refrigeration market

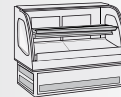
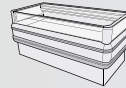
Model	Relays outputs				Outputs					Options				Format					
	Compressors ress. (induc.)	Defrost	Fans ress. (induc.)	Light/Aux./Alarm	Control temperature	End defrost temperature	Environment temperature	Digital input 1	Digital input 2	Power Supply	Buzzer	Real time clock	Integrated communications	Cut panel	Standard panel	Big display	large panel	DIN	Wall-mounting
<b>Thermometers</b>																			
AKO-D14012	-	-	-	-	-	-	-	NTC/PTC	-	-	12/24V	-	-	-	•	-	-	-	-
AKO-D14023	-	-	-	-	-	-	-	NTC/PTC	-	-	230V	-	-	-	•	-	-	-	-
AKO-D14023-C	-	-	-	-	-	-	-	NTC/PTC	-	-	90-240V	-	-	•	•	-	-	-	-
AKO-13012	-	-	-	-	-	-	-	NTC	-	-	12V	-	-	-	•	-	-	-	-
AKO-13023	-	-	-	-	-	-	-	NTC	-	-	230V	-	-	-	•	-	-	-	-
AKO-D14602	-	-	-	-	-	-	-	NTC/PTC	-	-	230V	-	-	-	-	-	-	-	•
AKO-14605	-	-	-	-	-	-	-	NTC	-	-	230V	-	-	-	-	-	-	-	•
<b>1 relay controllers</b>																			
AKO-D14112	12A(9)	-	-	-	NTC/PTC	NTC/PTC*	-	•	•*	12/24V	-	-	-	•	-	-	-	-	-
AKO-D14123	12A(9)	-	-	-	NTC/PTC	-	-	-	-	230V	-	-	-	•	-	-	-	-	-
AKO-D14123-2	16A(10)	-	-	-	NTC/PTC	NTC/PTC*	-	•	•*	230V	-	-	-	•	-	-	-	-	-
AKO-D14123-2-RC	16A(10)	-	-	-	NTC/PTC	NTC/PTC*	-	•	•*	90-240V	-	•	•	-	•	-	-	-	-
AKO-13112	12A(9)	-	-	-	NTC	-	-	-	-	12V	-	-	-	•	-	-	-	-	-
AKO-13123	12A(9)	-	-	-	NTC	-	-	-	-	230V	-	-	-	•	-	-	-	-	-
AKO-10123	12A(9)	-	-	8A (4)	NTC	-	-	-	•	-	230V	-	-	-	-	-	•	-	-
AKO-D10123	12A(9)	-	-	-	NTC/PTC	-	-	-	-	230V	-	-	-	-	-	-	•	-	-
AKO-D14615	12A(9)	-	-	-	NTC	-	-	-	-	230V	-	-	-	-	-	-	-	-	•
AKO-D14622	12A(9)	-	-	5A (4)	NTC/PTC	-	-	•	•	230V	-	-	-	-	-	-	-	-	•
AKO-D14622-C	12A(9)	-	-	5A (4)	NTC/PTC	-	-	•	•	90-240V	-	-	•	-	-	-	-	-	•
AKOTIM-21TE	12A(9)	-	-	-	NTC	-	NTC	•	-	230V	-	-	-	-	-	-	-	-	•
AKOTIM-21ATE	12A(9)	-	-	5A (4)	NTC	-	NTC	•	-	230V	-	-	-	-	-	-	-	-	•
AKOTIM-21ARTE	12A(9)	-	-	5A (4)	NTC	-	NTC	•	-	230V	-	•	-	-	-	-	-	-	•
AKOTIM-21ARTEB	12A(9)	-	-	5A (4)	NTC	-	NTC	•	-	230V	•	•	-	-	-	-	-	-	•
<b>2 relays controllers</b>																			
AKO-D14212	12A(9)	-	-	8A (4)	NTC/PTC	NTC/PTC*	-	•	•*	12V	-	-	-	•	-	-	-	-	-
AKO-D14223	12A(9)	-	-	8A (4)	NTC/PTC	NTC/PTC*	-	•	•*	230V	-	-	-	•	-	-	-	-	-
AKO-10223	12A(9)	8A (4)	-	8A (4)	NTC	NTC*	-	•	•*	230V	-	-	-	-	-	-	•	-	-
AKO-D10223	12A(9)	-	-	8A (4)	NTC/PTC	NTC/PTC*	-	•	•*	230V	-	-	-	-	-	-	•	-	-
AKOTIM-22TE	12A(9)	8A (4)	-	-	NTC	NTC	NTC	•	-	230V	-	-	-	-	-	-	-	-	•
AKOTIM-22ATE	12A(9)	8A (4)	-	5A (4)	NTC	NTC	NTC	•	-	230V	-	-	-	-	-	-	-	-	•
AKOTIM-22ARTE	12A(9)	8A (4)	-	5A (4)	NTC	NTC	NTC	•	-	230V	-	•	-	-	-	-	-	-	•
AKOTIM-22ARTEB	12A(9)	8A (4)	-	5A (4)	NTC	NTC	NTC	•	-	230V	•	•	-	-	-	-	-	-	•
<b>3 relays controllers</b>																			
AKO-D14312	12A(9)	-	5A(4)	8A(4)	NTC/PTC	NTC/PTC*	-	•	•*	12V	-	-	-	•	-	-	-	-	-
AKO-D14323	12A(9)	-	5A(4)	8A(4)	NTC/PTC	NTC/PTC*	-	•	•*	230V	-	-	-	•	-	-	-	-	-
AKO-D14323-C	12A(9)	-	5A(4)	8A(4)	NTC/PTC	NTC/PTC*	-	•	•*	90-240V	-	-	•	•	-	-	-	-	-
AKO-D16323	12A(9)	12A (9)	5A(4)	-	NTC/PTC	NTC/PTC	-	•	-	230V	-	-	-	-	-	•	-	-	-
AKO-10323	12A(9)	8A (4)	8A(4)	8A(4)	NTC	NTC	-	•	•	230V	-	-	-	-	-	-	•	-	-
AKO-D10323	12A(9)	-	5A(4)	8A(4)	NTC/PTC	NTC	-	•	•	230V	-	-	-	-	-	-	•	-	-
AKO-D14632	12A(9)	8A (4)	12A(9)	-	NTC	NTC	NTC*	•	•*	230V	-	-	-	-	-	-	-	-	•
AKO-D14632-C	12A(9)	8A (4)	12A(9)	-	NTC	NTC	NTC*	•	•*	90-240V	-	-	•	-	-	-	-	-	•
AKOTIM-23TE	12A(9)	8A (4)	5A(4)	-	NTC	NTC	NTC	•	-	230V	-	-	-	-	-	-	-	-	•
<b>4 relays controllers</b>																			
AKO-D14412	5A (4)	5A (4)	5A (4)	5A (4)	NTC/PTC	NTC/PTC*	NTC/PTC*	•*	•*	12V	-	-	-	•	-	-	-	-	-
AKO-D14412-RC	5A (4)	5A (4)	5A (4)	5A (4)	NTC/PTC	NTC/PTC*	NTC/PTC*	•*	•*	12V	-	•	•	-	•	-	-	-	-
AKO-D14423	5A (4)	5A (4)	5A (4)	5A (4)	NTC/PTC	NTC/PTC*	NTC/PTC*	•*	•*	230V	-	-	-	•	-	-	-	-	-
AKO-D14423-RC	5A (4)	5A (4)	5A (4)	5A (4)	NTC/PTC	NTC/PTC*	NTC/PTC*	•*	•*	90-240V	-	•	•	-	•	-	-	-	-
AKO-D14423P	12A(9)	8A(4)	5A (4)	5A (4)	NTC/PTC	NTC/PTC	NTC/PTC*	•*	•*	90-240V	-	-	-	-	•	-	-	-	-
AKO-D14423P-RC	12A(9)	8A(4)	5A (4)	5A (4)	NTC/PTC	NTC/PTC	NTC/PTC*	•*	•*	90-240V	-	•	•	-	•	-	-	-	-
AKO-D14642	12A (9)	8A (4)	12A(9)	5A (4)	NTC	NTC	NTC*	•	•*	230V	-	-	-	-	-	-	-	-	•
AKO-D14642-C	12A (9)	8A (4)	12A(9)	5A (4)	NTC	NTC	NTC*	•	•*	90-240V	-	-	•	-	-	-	-	-	•
AKOTIM-23ATE	12A (9)	8A (4)	5A(4)	5A (4)	NTC	NTC	NTC	•	-	230V	-	-	-	-	-	-	-	-	•
AKOTIM-23ARTE	12A (9)	8A (4)	5A(4)	5A (4)	NTC	NTC	NTC	•	-	230V	-	•	-	-	-	-	-	-	•
AKOTIM-23ARTEB	12A (9)	8A (4)	5A (4)	5A (4)	NTC	NTC	NTC	•	-	230V	•	•	-	-	-	-	-	-	•

\* Configurable Input NTC/Digital

# Application scope

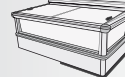
## Thermometers

- Ideal for temperature indication.
- A single button for adjusting parameters.
- NTC/PTC probe selectable by program. Allow probe calibration.
- Temperature display in °C or °F with decimal point.



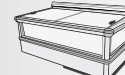
## 1 & 2 relays Controllers

- Ideal for positive service (temperatures above 3 °C) and static refrigerated units with positive temperature.
- HOT/COLD operation selectable by program.
- Defrost by compressor shutdown, air, resistance, and cycle reversal.
- Wizard to simplify startup with the 8 most common applications (soft drinks, fruit and vegetables, frozen, etc.)
- Auxiliary relay configurable for fans, defrost, alarm or light.



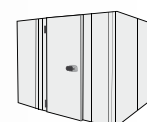
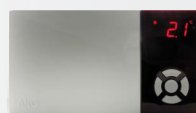
## 3 relays Controllers

- Ideal for negative or positive service, ventilated refrigerated units with positive or negative temperature.
- Auxiliary relay configurable for fans, defrost, alarm or light.
- Wizard to simplify startup with the 8 most common applications (soft drinks, fruit and vegetables, frozen, etc.)
- Defrost by compressor shutdown, air, resistance, and cycle reversal.



## 4 relays Controllers

- Ideal for positive or negative service, ventilated refrigerated units with positive or negative temperature.
- Auxiliary relay configurable for fans, defrost, alarm or light.
- Defrost by compressor shutdown, air, resistance, and cycle reversal.
- Wizard to simplify startup with the 8 most common applications (soft drinks, fruit and vegetables, frozen, etc.)
- Temperature display in °C or °F with decimal point.
- Configurable digital inputs (door, external alarm, severe external alarm, remote defrost mode, ECO or rapid cooling).



# Thermostats and thermometers

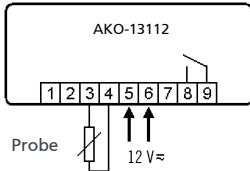
Range from -50 °C to +99.9 °C, panel mounting, small format



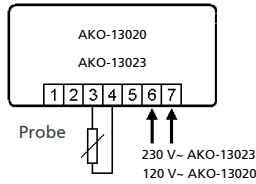
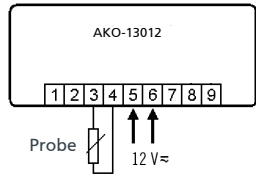
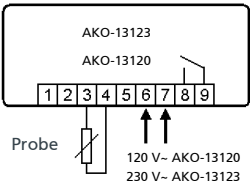
### Small dimensions 66 x 32 x 56 mm

The dimensions of the panel cut-out make them exchangeable with traditional mechanical thermometers, by also integrating the thermostat and defrost clock function in a single unit. Programmable for cold and heat. Defrost by compressor stop. Possible password for entering programming, indication in °C or °F programme selectable and probe calibration.

Application: Industrial and commercial cold, displays, cabinets, etc.



- Temperature range -50 °C to +99.9 °C
- 2 Display digits (°C/°F)
- Resolution 1 °C
- Precision ±1 °C
- NTC Probe
- Panel cut-out dimensions 25,4x58 mm
- Front dimensions 32 x 66 mm
- Depth 51 mm



Reference	Description	Family	Pack
AKO-13012	12 V~, °C / °F probe NTC 1,5 m included	Small Format	12 Unit
AKO-13020	120 V~, °C / °F probe NTC 1,5 m included	Small Format	12 Unit
AKO-13023	230 V~, °C / °F probe NTC 1,5 m included	Small Format	12 Unit
AKO-13112	12V~, SPST relay 16 A, probe NTC included	Small Format	12 Unit
AKO-13120	120V~, SPST relay 16 A, probe NTC included	Small Format	12 Unit
AKO-13123	230V~, SPST relay 16 A, probe NTC included	Small Format	12 Unit

# Thermometers

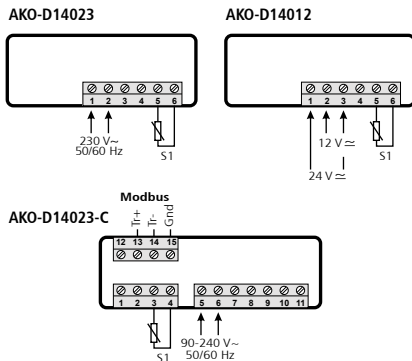
Range from -50 °C to +150 °C, panel mounting



### Temperature display

Temperature display in °C or °F with decimal point. NTC/PTC probe selectable by programme. Allows probe calibration. A single button for adjusting parameters. The AKO-14023-C model has integrated RS-485 communication.

Application: Industrial and commercial refrigeration, displays, incubators, vehicles



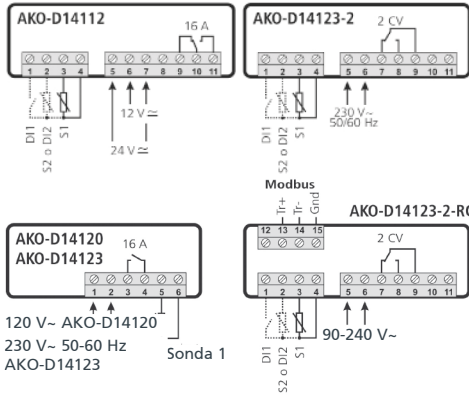
- NTC probe temperature range -50°C to + 99.9 °C
- PTC probe temperature range -50 °C to +150 °C
- 3-digit display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 71 x 29 mm
- Front panel dimensions 79 x 38 mm
- Depth 43 mm (AKO-D14012 y AKO-D14023)
- Depth 61 mm (AKO-D14023-C)

Reference	Description	Family	Pack
AKO-D14012	12/24 V~, 1 NTC probe included	Standard Panel	12 Units
AKO-D14023	230 V~, 1 NTC probe included	Standard Panel	12 Units
AKO-D14023-C	90-240 V~, with communication, 1 NTC probe included	Standard Panel	12 Units



## Thermostats

Range from -50°C to +150 °C, 1 relay output, panel mounting



### Programmable for cold and heat

Display and control in °C and °F with decimalpoint. NTC/PTC probe selectable by programme. Possible password protection for configuration. Defrost by compressor shutdown. Configuration wizard depending on application (8 configurations).

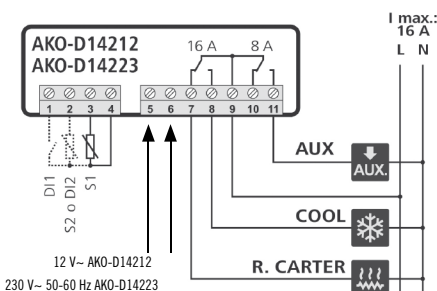
Application: Industrial and commercial refrigeration, displays, incubators, vehicles

- NTC probe temperature range -50°C to + 99.9 °C
- PTC probe temperature range -50 °C to +150 °C
- 3 digits Display (°C/° F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 71 x 29 mm
- Front panel dimensions 79 x 38 mm
- Depth 43 mm (AKO-D14120 y AKO-D14123) SPST
- Depth 61 mm (AKO-D14112 y AKO-D14123-2-RC) SPDT
- Compressor relay SPST 16 A: AC1=12, AC3=9 (AKO-D1412x)
- Compressor relay SPDT 2 CV: AC1=16, AC3=10 (AKO-D14123-2, AKO-D14123-2-RC)
- Compressor relay SPDT 16 A: AC1=12, AC3=9 (AKO-D14112)
- The AKO-1423-2-RC model has integrated RS485 communication and Real Time Clock to defrost

Reference	Description	Family	Pack
AKO-D14112	12/24 V~, 1 SPDT relay 16 A, 1 NTC probe included	Standard Panel	12 Units
AKO-D14120	120 V~, 1 SPST 16 A, 1 NTC probe included	Standard Panel	12 Units
AKO-D14120-2	120 V~, 1 relay SPST 2 CV, 1 NTC probe included	Standard Panel	12 Units
AKO-D14123	230 V~, 1 SPST relay 16 A, 1 NTC probe included	Standard Panel	12 Units
AKO-D14123-2	230 V~, 1 SPDT relay 2 CV, 1 NTC probe included	Standard Panel	12 Units
AKO-D14123-2-RC	90-240 V~, 1 SPDT relay 2 CV, communication, real time clock, 1 NTC probe included	Standard Panel	12 Units

## Temperature controller

Range from -50 °C to +99.9 °C, 2 relays, panel mounting



### Compressor and auxiliary relay (defrost or fans)

Auxiliary relay function programmable as Defrost, Fans, Alarm or Light. A 2nd optional probe allows ending the defrost process by temperature. Programmable digital inputs such as door, switch, external alarm, remote defrost, energy saving or continuous cycle. Configuration wizard depending on application (8 configurations).

Application: Industrial and commercial refrigeration, display cabinets, electrical

- NTC probe temperature range -50°C to + 99.9 °C
- PTC probe temperature range -50 °C to +150 °C
- 3 Digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 71 x 29 mm
- Front panel dimensions 79 x 38 mm
- Depth 61 mm
- Compressor relay SPDT 16 A: AC1=12, AC3=9
- Aux relay SPDT 8 A: AC1=8, AC3=4

Reference	Description	Family	Pack
AKO-D14212	12 V~, 2 relays , 1 NTC probe included	Standard Panel	12 Units
AKO-D14220	120 V~, 2 relays , 1 NTC probe included	Standard Panel	12 Units
AKO-D14223	230 V~, 2 relays, 1 NTC probe included	Standard Panel	12 Units

## Temperature controllers

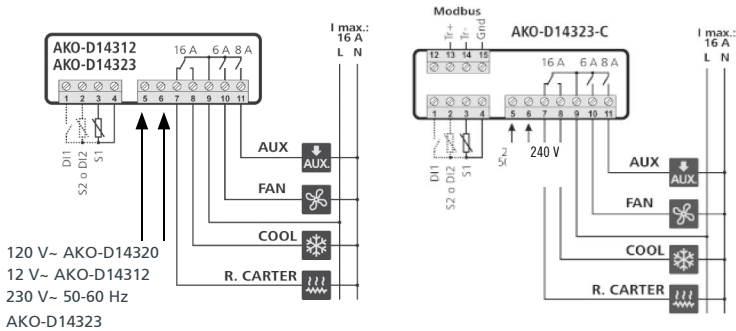
Range from -50 °C to +99.9 °C, 3 relays, panel mounting



### Compressor, fan and auxiliary relay.

Auxiliary relay programmable as Defrost, Alarm or Light. Defrosts programmable by controlling compressor, resistances (or cycle reversal) and fans. A optional probe allows defrosting by temperature. Programmable digital inputs such as door switch, external alarm, remote defrost, energy saving or continuous cycle. Configuration wizard depending on application (8 configurations). The AKO-14323-C model has integrated RS-485 communication.

Application: Industrial and commercial refrigeration, display cabinets, electrical panels, etc.

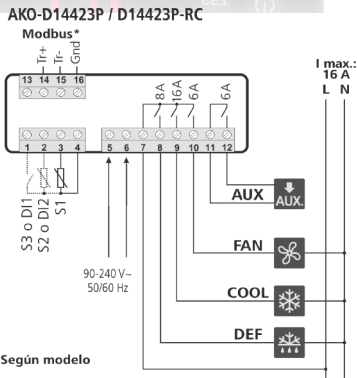


- NTC probe temperature range -50°C to +99.9 °C
- PTC probe temperature range -50 °C to +150 °C
- Temperature Range (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 71 x 29 mm
- Front panel dimensions 79 x 38 mm
- Depth 61 mm
- Compressor relay SPDT 16 A: AC1=12, AC3=9
- Aux relay SPST 8 A: AC1=8, AC3=4
- Fan relay SPST 6 A: AC1=5, AC3=4

Reference	Description	Family	Pack
AKO-D14312	12 V~, 3 relays, 1 NTC probe included	Standard Panel	12 Units
AKO-D14320	120 V~, 3 relays, 1 NTC probe included	Standard Panel	12 Units
AKO-D14323	230 V~, 3 relays, 1 NTC probe included	Standard Panel	12 Units
AKO-D14323-C	90-240 V~, 3 relays, communication, 1 NTC probe included	Standard Panel	12 Units

## Temperature controller

Range from -50 °C to +99.9 °C, 4 relays



### Auxiliary relay programmable as an alarm, 2nd defrost, gas collection or light.

Defrost by heat, air or cycle reversal, programmable by controlling compressor, resistances (or cycle reversal) and fans. Real-time clock for starting defrosts. A 2nd optional probe allows defrosting by temperature. Programmable digital inputs such as door switch, external alarm, remote defrost, energy saving or continuous cycle. Integrated RS-485 communications. Configuration wizard depending on application (8 configurations). (8 configurations) for AKO-D14412-RC and AKO-D14423-RC devices.

Application: Industrial and commercial refrigeration, display cabinets, electrical

- NTC probe temperature range -50°C to +99.9 °C
- PTC probe temperature range -50 °C to +150 °C
- 3 Digits display (°C/°F)
- Resolution 0.1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 71 x 29 mm
- Front panel dimensions 79 x 38 mm
- Depth 61 mm
- Control of compressors, fan, defrost and auxiliary.
- Standar equipment with 6A relays
- Power equipment with 16A, 8A, 6A and 6A relays

Reference	Description	Family	Pack
AKO-D14412	12 V~, 4 relays, 1 NTC probe included	4 Relays	12 Units
AKO-D14420	120V~, 1 NTC probe included	4 Relays	12 Units
AKO-D14423	230V~, 1 NTC probe included	4 Relays	12 Units
AKO-D14412-RC	12 V~, 4 relays, communication + real time clock, 1 NTC probe included	4 Relays	12 Units
AKO-D14423-RC	90-240 V~, 4 relays, with communication and clock, 1 NTC probe included	4 Relays	12 Units
AKO-D14423P	Control. Panel STD, 90-240V, 4R Power, + NTC 1,5m	4 Relays	12 Units
AKO-D14423P-RC	Control. Panel STD, 90-240V, 4R Power, + Communic. + RTC + NTC 1,5m	4 Relays	12 Units



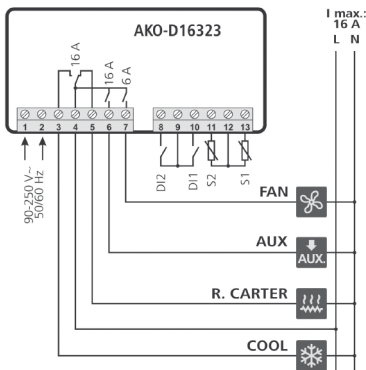
# Temperature controllers

Range from -50 °C to +99.9 °C, 3 relays, panel mounting



**Large display. Relay for compressor, fans and defrost**  
 Defrosts programmable by controlling compressor, resistances (or cycle reversal) and fans. A 2nd optional probe allows defrosting by temperature. Auxiliary relay programmable as Defrost, Alarm or Light. Programmable digital inputs such as door switch, external alarm, remote defrost, energy saving or continuous cycle. Configuration wizard depending on application (8 configurations).

Application: Industrial and commercial refrigeration



- NTC probe temperature range -50°C to + 99.9 °C
- PTC probe temperature range -50 °C to +150 °C
- 2 digits Display (°C/°F)
- Resolution: 0,1 °C on range -9,9 to 9,9 °C (1 °C in other range)
- Panel cut-out size 124 x 85 mm
- Front panel dimensions 139 x 100 mm
- Depth 40 mm
- Compressor relay SPDT 16 A: AC1=12, AC3=9
- Aux relay SPST 16 A: AC1=12, AC3=9
- Fan relay SPST 6 A: AC1=5, AC3=4

Reference	Description	Family	Pack
AKO-D16323	90-240 V~, 3 relays, 1 NTC probe included	Big Panel	10 Units

# Display of temperature and humidity

Range from -9 °C to +60 °C, panel mounting

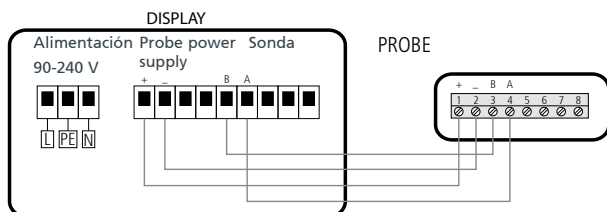


**Display of temperature and humidity for installation in buildings and public premises.**

Fast and easy installation, perfect visibility trough display and 3 digits of 100 mm in size allowing goog read up to 50 m included probe.

Application: Small's supermarkets, sports centers, restaurants, bus stations, train stations, airports, etc..

- Temperature range -9 °C to +60 °C
- 3 digits display (°C/°F)
- Temperature accuracy 0,5 %
- Humidity accuracy 2 % (10 up to 90 %)
- Front panel dimensions 482 x 368 mm
- Depth 41 mm
- Power supply 90-240 V



Reference	Description	Family	Pack
AKO-D17023	GRANVis display of temperature and humidity	Panel XXL	1 Units

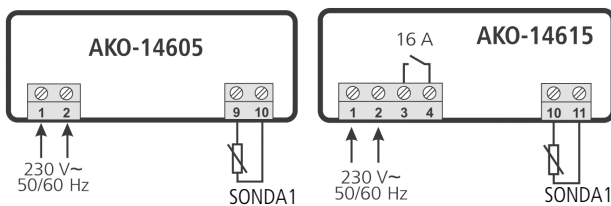
## Thermostat and Thermometer

Range from -50 °C to +99.9 °C, wall mounting



**Programmable temperature display for cold and heat**  
 Display and control in °C and °F. Possibility of blocking parameters. Defrost by compressor shutdown. NTC probe included in the kit, extendable with AKO-15586. Fixing holes suitable for universal recessed box.

Application: Industrial and commercial refrigeration, displays, cabinets, incubators, vehicles, etc...



- NTC probe temperature range -50°C to + 99.9 °C
- 2 digits display (°C/°F)
- Resolution 1 °C
- Accuracy ±1 °C
- Dimensions 80 x 120 x 37 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9 (AKO-14615)

Reference	Description	Family	Pack
AKO-14605	230 V~, 1 NTC probe included	Mural	12 Units
AKO-14615	230 V~, 1 relay SPST 16A, 1 NTC probe included	Mural	12 Units

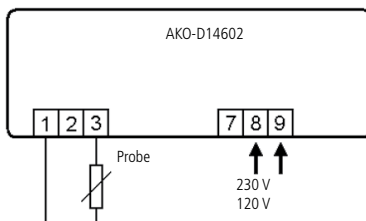
## Thermometers

Range from -50 °C to +150 °C, wall mounting



**Programmable NTC or PTC probe**  
 Temperature display in cold and heat applications. Allows probe calibration, display in °C or °F and password to enter programming. Fixing holes adapted to universal embedding box.

Application: Industrial and commercial cold, cold rooms, industrial warehouses, etc.



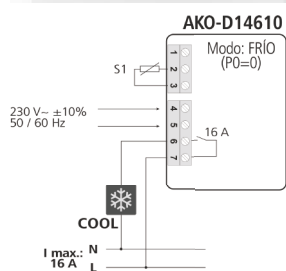
- NTC probe temperature range -50°C to + 99.9 °C
- PTC probe temperature range -50 °C to +150 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Box dimensions 171 x 94 x 42 mm
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-D14601	Thermometer 120 V~, 1 NTC probe included	Mural	10 Units
AKO-D14602	Thermometer 230 V~, 1 NTC probe included	Mural	10 Units



## Temperature controllers

Range from -50 °C to +150 °C, 1 output relay, wall mounting



### Programmable for cold and heat.

NTC or PTC probe programme-selectable. Display and control with decimal point. Wall mounting. Fixing holes adapted to universal embedding box. Parameter protection by password. Indication in °C o °F.

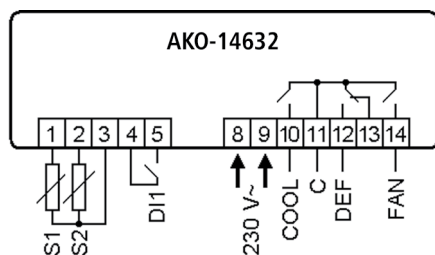
Application: Industrial and commercial cold, cold rooms stores, incubators, industrial warehouses, etc.

- NTC probe temperature range -50 °C to +99.9 °C
- PTC probe temperature range -50°C to +150 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Box dimensions 171 x 94 x 42 mm
- Control relay SPST 16 A: AC1=12, AC3=9
- Alarm relay SPST 6A: AC1=5, AC3=4

Reference	Description	Family	Pack
AKO-D14610	Controller 230 V~, 1 SPST relay, 1 NTC probe included	Mural	10 Units
AKO-D14612	Controller 120 V~, 1 SPST relay, 1 NTC probe included	Mural	10 Units
AKO-D14621	Controller 120 V~, 1 SPST relay + 1 alarm relay, 1 NTC probe included	Mural	10 Units
AKO-D14622	Controller 230 V~, 1 SPST relay + 1 alarm relay, 1 NTC probe included	Mural	10 Units
AKO-D14622-C	Controller 90-240V~, 1 SPST relay + 1 alarm relay, 1 NTC probe included + communication	Mural	10 Units

## Temperature controllers

Range from -50 °C to +99.9 °C, 3 relays, wall mounting



### Defrost by electric heat, air or hot gas bypass.

Programmable defrost by regulating the compressor, resistances (or hot gas bypass) and fans. With a 2nd optional probe, it enables defrost by temperature. Password enabled for entering the programming. Indication in °C o °F selectable by programme and probe calibration.

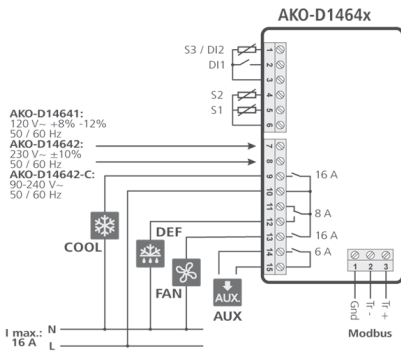
Application: Industrial and commercial cold, cold room stores, etc.

- NTC probe temperature range -50 °C to + 99.9 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Box dimensions 171 x 94 x 42 mm
- Digital input for door contact
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Fan relay SPST 6 A: AC1=5, AC3=4
- Defrost relay SPDT 8 A: AC1=8, AC3=4
- Power supply 120/230V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-D14631	Controller 120 V~, 3 relays, 1 NTC probe included	Mural	10 Units
AKO-D14632	Controller 230 V~, 3 relays, 1 NTC probe included	Mural	10 Units
AKO-D14632-C	Controller 90-240V~, 3 relays, 1 NTC probe included + communication	Mural	10 Units

## Temperature controllers

Range from -50 °C to + 99.9 °C, 4 relays, wall mounting



### Configurable auxiliary relay.

Defrost by electric heat, air or hot gas bypass, programmable by regulating the compressor, resistances (or hot gas bypass) and fans. With a 2nd optional probe, it enables defrost by temperature. Auxiliary relay configurable for indicating alarms, defrost 2nd evaporator or solenoid control. Possible stop for pump down. Input for independent temperature probe or defrost control in 2nd evaporator. Digital input for door contact.

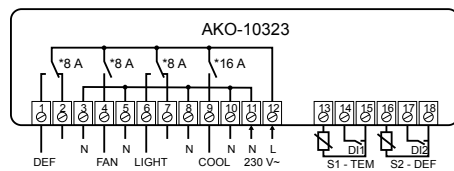
Application: Industrial and commercial cold, cold room stores, etc.

- NTC probe temperature range -50 °C to + 99.9 °C
- Display 3 Digits (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Box dimensions 171 x 94 x 42 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Fan relay SPST 6 A: AC1=5, AC3=4
- Defrost relay SPDT 8 A: AC1=8, AC3=4
- Aux relay SPST 6 A: AC1=5, AC3=4
- Power supply 230V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-D14641	Controller 120 V~, 4 relays, 1 NTC probe included	Mural	10 Units
AKO-D14642	Controller 230 V~, 4 relays, 1 NTC probe included	Mural	10 Units
AKO-D14642-C	Controller 90-240V~, 4 relays, 1 NTC probe included + communication	Mural	10 Units

## Large frontal temperature controllers

Range -50 °C to +99.9 °C, 2,3 and 4 relays, panel mounting



### Compressor, defrost, fan and light relay

6 keys: Up, Down, Set, Escape, Light and ON/OFF. Pushbutton to turn the unit on and off and light switch. Defrost by compressor shutdown. Continuous cycle is possible. Password enabled for entering programming, programme-selectable indication in °C o °F Digital input configurable for door contact, severe alarm, remote defrost, change in set-point temperature.

Application: Industrial and commercial cold, cold room stores, etc.

- NTC probe temperature range -50 °C to + 99.9 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 150x31 mm
- Box dimensions 149 x 30 x 57,7 mm
- Frame 174 x 34 mm
- Compressor relay SPST 16 A: AC1=16, AC3=10
- Light relay SPDT 8 A: AC1=8, AC3=4
- Defrost relay SPDT 8 A: AC1=8, AC3=4 (solo AKO-10223 y AKO-10323)
- Fans relay SPDT 8 A: AC1=8, AC3=4 (only AKO-10223 and AKO-10323)
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-10123	Controller 1 control relay + light relay 230 V~	AKOFRONT-Large	10 Units
AKO-10223	Controller 2 control relay + light relay 230 V~	AKOFRONT-Large	10 Units
AKO-10323	Controller 3 control relay +light relay 230 V~	AKOFRONT-Large	10 Units

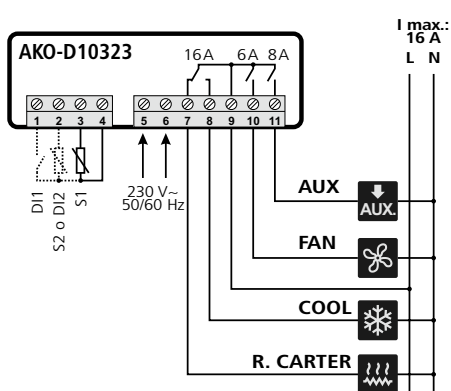
## Extended panel temperature controllers

Range from -50 °C to +99.9 °C, 1, 2, 3 relays, panel mounting



**Compressor relay, auxiliary and fans (3 relays controls only).**  
 Auxiliary relay programmable as defrost, alarm or light. Programmable defrost controlling compressor, electric heat (or inverted cycle) and fans. With a 2nd optional probe it enable defrost by temperature. Configurable digital input for door contact, external alarm, remote defrost, energy (saving) or continuous cycle.  
 Assistant to put on service (8 settings). It incorporates two switches for auxiliary functions ideal for controlling furniture on/off, lights, etc.

Application: Industrial and commercial cold, displays, electric panels, etc.



- NTC probe temperature range -50 °C to +99.9 °C
- PTC probe temperature range -50°C to +150 °C
- Temperature range (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 136 x 29 mm
- Box dimensions 70 x 61 x 28,5 mm
- Frame 181 x 38 mm
- Compressor relay SPST 16 A: AC1=16, AC3=10
- Light relay SPDT 8 A: AC1=8, AC3=4
- Aux relay SPST 8 A: AC1=8, AC3=4
- Fans relay SPST 6 A: AC1=8, AC3=4
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-D10123	Controller 1 control relay + light switch and on/off 230 V~	AKOFRONT-Large	10 Units
AKO-D10223	Controller 2 control relay + light switch and on/off 230 V~	AKOFRONT-Large	10 Units
AKO-D10323	Controller 3 control relay + light switch and on/off 230 V~	AKOFRONT-Large	10 Units

## Thermometers

Range from -50 °C to +70 °C, panel mounting



AKO-80025



AKO-80032

**Battery thermometers.**  
 Temperature display in cold and heat applications.

Application: Industrial and commercial cold, displays.

- Temperature range - 50 °C to +70 °C (NTC probe included)
- LCD display
- Resolution 0,1 °C
- Accuracy ±1 °C
- Battery power supply 1,5 V (G10)
- Dimensions AKO-80025 48 x 28,6 x 14 mm
- Dimensions AKO-80032 85 x 29,2 x 15 mm

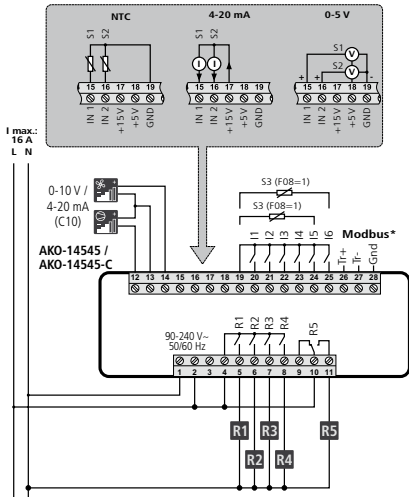
Reference	Description	Family	Pack
AKO-80025	Thermometer Battery, 1 NTC probe included	LCD Thermometer	25 Units
AKO-80032	Solar Thermometer and battery, 1 NTC probe included	LCD Thermometer	25 Units

# Controller for compressors and condensers rack

Up to 5 stages and 2 analogical outputs for converters



AKO-14545 / AKO-14545-C



### Inverter control outputs for 1 compressor and condenser fans

Electronic controllers for regulation of capacity in refrigerated stations designed for more efficient management and energy savings through floating condensation. Regulation in proportional bandwidth and neutral zone. Rotation of compressors by operation hours. Information displayed on screen. Quick and intuitive menus with programming wizard. Reading and configurable programming by pressure or temperature, compatible with the following gases: R404a, R134a, R717a, R22, R410a, R507a, R744, R407a, R407f, R1234y. It has 5 relay outputs, 1 of which is configurable as a control or alarm.

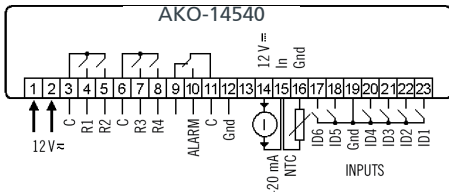
Application: Cold installations

- Power supply: 90~ 240 V, 50/60 Hz
- 2 analogic outputs 4-20 mA or 0-10 V
- 2 outputs for pressure probes 4-20 mA, 0-5 V or NTC temperature probe
- Relays: R1, R2, R3, R4 relays: SPST 5(4)A
- R5 relay: SPDT 5(4)A
- Events data logger by real time clock
- Panel cut-out: 71 x 29 mm.
- 6 digital inputs (4 for thermal and 2 configurable)
- Temperature range: NTC -50.0 °C to +99.9 °C, 4-20 mA / 0-5 V, -99.9 to +99.9 °C

Reference	Description	Family	Pack
AKO-14545	Compressor and condenser station 5 stages 90-240 V	Compressor Racks	1 Unit
AKO-14545-C	Compressor and condenser station + communication 5 stages, 90-240 V	Compressor Racks	1 Unit

# Compressors and condensers rack

Up to 4 stages



### Operating modes, proportional band and neutral zone

4 stage controller for compressors or condensers. Compressor rotation by operating hours. Probe reading configurable by pressure or temperature probe. 5 relay outputs: 4 control outputs and 1 alarm output. Also with 6 digital inputs, 4 for the compressor protection thermal switches, 1 for high pressure switch and 1 for low pressure switch..

Application: Cold installations

- Power supply 12 V~ ±20%, 50/60 Hz
- Relays R1, R2, R3 y R14 SPST 6 A: AC1=5, AC3=4
- Alarm relay SPDT 8 A: AC1=8, AC3=4
- Panel cut-out 70,5 x 28,5 mm
- Front part dimensions 75,8 x 33,8 mm
- Depth 61 mm
- 3 digit display
- Accuracy (4-20 mA) ±1%
- Accuracy (NTC) ±1%
- Resolution (4-20 mA) 0,01
- Resolution (NTC) 0,1 °C
- Scale with input 4-20 mA -99.9 a +99.9
- Temperature range (NTC) -50 °C a +105 °C
- NTC probe or 4-20 mA

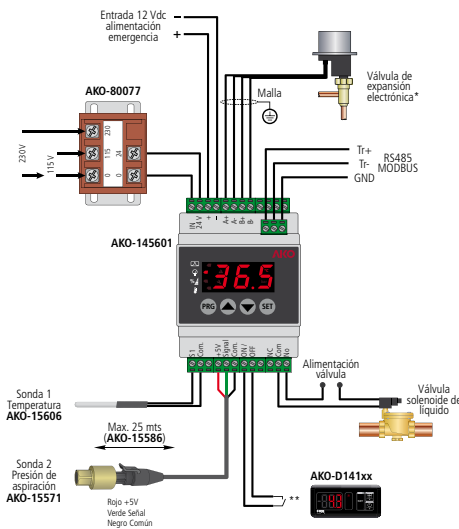
Reference	Description	Family	Pack
AKO-14540	Compressor and condensers station 4 stages, 12 V	Compressor Racks	1 Unit
AKO-15590	Transformer 120-230 V/12 V rack	Compressor Racks	1 Unit

# CONTROL EVC

Universal control for electronic expansion valve with step motor



AKO-14560



### Electronic expansion valve control solution with step motor.

The controller efficiently manages the electronic expansion valve's positioning. Easy and fast start-up with only 3 parameters. Compatible with most valves used in the refrigeration market:

DANFOSS: 12.5 ETS, ETS 25B, 50B ETS, ETS 100B, ETS 250, ETS 400

ALCO: EX4, EX5, EX6, EX7, EX8

CAREL: E2V, E2VP

SPORLAN: SEI 0.5 ~ 11 ~ 20 1.5 SEI SEI 30, SEI 100, 175 SEI

Suitable for working on facilities with the following refrigerant gases:

R-22, R-134A, R-404A, R-407C, R-410A, R-717, R-23, R-507C, HFO 1234ze, R-744, R-407A, R-407F, R-507A

The kit includes all components needed to regulate the expansion valve:

Controller, temperature probe, pressure probe and power supply transformer. The controller comes prepared with integrated RS485 communication to connect to the AKONET supervision software.

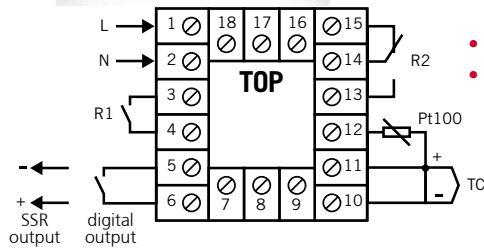
Application: Cold installations

- Display °C, °F, Bar or Psi
- Power supply 24 V~ +10% /-15%, 50/60 Hz
- Outputs for electronic expansion valve: Valves for bipolar step motors
- Pressure probe: 0.5 to 4.5 V, ratiometric
- Temperature probe: Pt1000
- Relay: SPST 2(2)A
- DIN Rail mounting
- Box dimensions 70 x 115 x 58 mm (4 DIN modules)

Reference	Description	Family	Pack
AKO-14560	Kit for the control of electronic expansion valves: - Controller AKO-145601 - Pressure probe AKO-15571 - Temperature probe AKO-15606 - Power supply transformer 110 - 220 V / 24 V AKO-80077	Compressor Racks	1 Unit
AKO-145601	Electronic controller EEV (Spare part)	Accessories	1 Unit
AKO-15571	Pressure probe -1 to 15 bar	Accessories	1 Unit
AKO-15572	Pressure probe -1 to 25 bar	Accessories	1 Unit
AKO-15606	Temperature probe Pt1000 -100 to 120 °C	Accessories	1 Unit
AKO-80077	Power supply transformer 110 – 200 V / 24 V	Accessories	1 Unit

## Temperature controllers

Range from -99.9 °C to +1370 °C, 48 x 48 format



**Input for Pt100 probe, J and K thermocouple.**

ON/OFF Control. Programmable for cold and heat. With the 2 outputs, the controller can be used to work as a stage plus alarm.

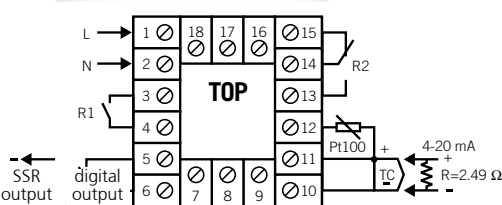
Application: Ovens, electrical panels, industrial installations, etc.

- Temp range with Pt100 probe -99.9 °C to +850 °C
- Temp range with thermocouple J -99.9 °C to +800 °C
- Temp range with thermocouple K -99.9 °C to +1370 °C
- Resolution 0,1 °C
- Accuracy  $\pm 1$  °C
- 4 Digits display (°C/°F)
- Output SSR 12 Vdc, max. 10 mA
- Front part dimensions 48 x 48 mm
- Panel cut-out dimensions 45 x 45 mm
- Depth 119 mm
- R1 SPST relay 6 A, 250 V
- Relé R2 SPDT 5 A, 250 V

Reference	Description	Family	Pack
AKO-15440	Controller ON/OFF power supply from 20 up to 48 V~	48x48 Panel	1 Unit
AKO-15490	Controller ON/OFF power supply from 100 up to 240 V~	48x48 Panel	1 Unit

## PID controller, 48 x 48 format

Range from -99.9 °C up to +1370 °C



**Input for Pt100 probe, Thermocouple J and K, 4-20mA**

Programmable for cold and heat. Controller PID or ON/OFF programme-selectable. Self-tuning function. Probe input configurable as Pt100, thermocouple J and K, 4-20mA. With the 2 outputs, the controller can be used to work as a stage plus alarm. Digital input configurable for SetPoint change or start-stop of the unit.

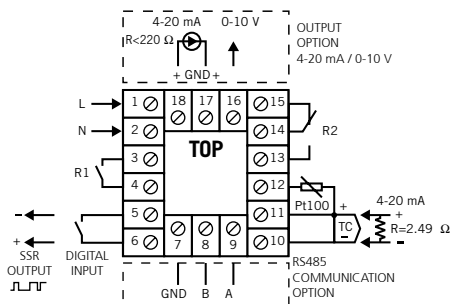
Application: Ovens, electrical panels, industrial installations, etc.

- Temperature range probe Pt100 -99.9 °C to +850 °C
- Temperature range with thermocouple J -99.9 °C to +800 °C
- Temperature range with thermocouple K -99.9 °C to +1370 °C
- Temperature range with thermocouple 4-20mA -999 °C to +2500 °C
- Resolution 0,1 °C
- Accuracy  $\pm 1$  °C
- Display 4 Digits (°C/°F)
- SSR control output 12 Vdc, max. 10 mA
- Front part dimensions 48x48mm
- Panel cut-out dimensions 45x45mm
- Depth 119 mm
- R1 relay SPST 6 A, 250 V
- R2 relay SPDT 5 A, 250 V

Reference	Description	Family	Pack
AKO-15400	Controller with power supply from 20 up to 48 V~	48x48 Panel	1 Unit
AKO-15450	Controlador con alimentación from 100 up to 240 V~	48x48 Panel	1 Unit

## PID controller, 48 x 48 format

Range -99.9 °C to +1370 °C, output 4-20 mA/0-10 V



### With 4-20mA/0-10V output.

Programmable for cold and heat. Controller PID or ON/OFF programme-selectable. Self-tuning function. Probe input configurable as Pt100, thermocouple J and K, 4-20 mA. With the 2 outputs, the controller can be used to work as a stage plus alarm. With the 4-20 mA/0-10V output option, we have an analogue output to govern a valve or to resend the signal to a variator or PLC. With the RS-485 communication option, the unit can be connected to a network working with ModBus protocol.

Application: Ovens, electrical panels, industrial installations, etc.

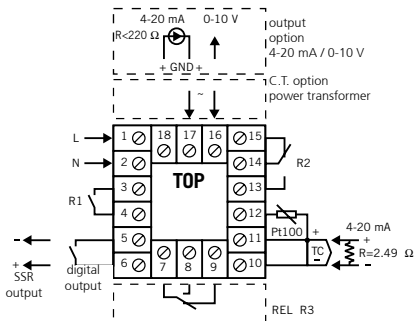
- Temperature range with probe Pt100 -99.9 °C to +850,0 °C
- Temperature range with probe thermocouple J -99.9 °C to +800,0 °C
- Temperature range with probe thermocouple K -99.9 °C to +1370 °C
- Temperature range with 4-20 mA -999 °C to +2500 °C
- Resolution 0,1 °C
- Accuracy ±1 °C
- Display 4 Digits (°C/°F)
- Output SSR 12 Vdc, max 10 mA
- Front part dimensions 48 x 48 mm
- Panel cut-out dimensions 45 x 45 mm
- Depth 119 mm
- R1 relay SPST 6 A, 250 V
- R2 SPDT 5 A, 250 V

Reference	Description	Family	Pack
AKO-15430	20 to 48 V~, with 4-20 mA	48x48 Panel	1 Unit
AKO-15437	20 to 48 V~, with 4-20 mA output + communication	48x48 Panel	1 Unit
AKO-15480	100 to 240 V~, with 4-20 mA output + communication	48x48 Panel	1 Unit.
AKO-15487	100 to 240 V~, with 4-20 mA output + communication	48x48 Panel	1 Unit.

\*Available on request

## PID controller, 48 x 48 format

Range from -99.9 °C to +1370 °C, 3 relays



### With additional relay output.

Programmable for cold and heat. Controller PID or ON/OFF programme-selectable. Self-tuning function. Probe input configurable as Pt100, thermocouple J and K, 4-20 mA. Digital input configurable for SetPoint change or start-stop of the unit. With the 3 outputs, the controller can operate as a two stage, a neutral zone, with alarm signalling. With the 4-20 mA/0-10V output option, we have an analogue output to govern a valve or to resend the signal to a variator or PLC. With the option of an input for current transformer (C.T.) the breakage of the heating resistance can be detected.

Application: Ovens, electrical panels, industrial installations, etc.

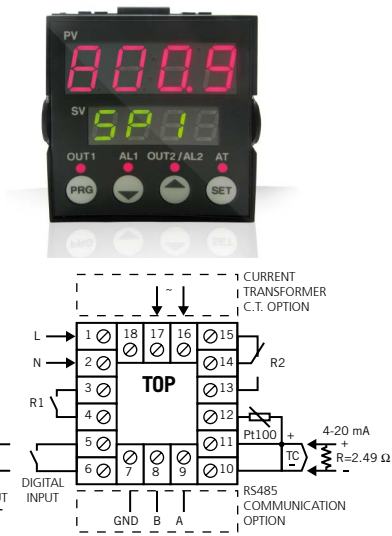
- Temperature range with probe Pt100 -99.9 °C a +850,0 °C
- Temp range with thermocouple J -99.9 °C to +800,0 °C
- Temp range with thermocouple K -99.9 °C to +1370 °C
- Temperature range with 4-20 mA -999 °C to +2500 °C
- Resolution 0,1 °C , Accuracy ±1 °C
- 4 Digits display (°C/°F)
- Output control SSR 12 Vdc, maximum 10 mA
- Front part dimensions 48 x 48 mm
- Panel cut-out dimensions 45 x 45 mm
- Depth 119 mm
- R1 relay SPST 6 A, 250V
- R2 relay SPDT 5 A, 250V
- R3 relay SPDT 5 A, 250V

Reference	Description	Family	Pack
AKO-15410	20 to 48 V~, relay 3 SPDT 5 A	48x48 Panel	1 Unit
AKO-15413	20 to 48 V~, relay 3 SPDT 5 A, with 4-20 mA output	48x48 Panel	1 Unit
AKO-15415	20 to 48 V~, relay 3 SPDT 5 A, wit input for C.T.	48x48 Panel	1 Unit
AKO-15460	100 to 240 V~, relay 3 SPDT 5 A	48x48 Panel	1 Unit
AKO-15463	100 to 240 V~, relay 3 SPDT 5 A, with output 4-20 mA	48x48 Panel	1 Unit
AKO-15465	100 to 240 V~, relay 3 SPDT 5 A, with output for C.T.	48x48 Panel	1 Unit
AKO-80033	Intensity transformer (CT) 25 A/0,05 A	48x48 Panel	25 Units

\*Available on request

## Control PID, formato 48 x 48

With RS485 communication



### Communication and input for current transformer.

Programmable for cold and heat. Controller PID or ON/OFF programme-selectable. Self-tuning function. Probe input configurable as Pt100, thermocouple J and K, 4-20 mA. With the 2 outputs, the controller can be used to work as a stage plus alarm. With the option of an input for current transformer (C.T.) the breakage of the heating resistance can be detected. With the RS-485 communication option, the unit can be connected to a network working with ModBus protocol.

Application: Ovens, electrical panels, industrial installations, etc.

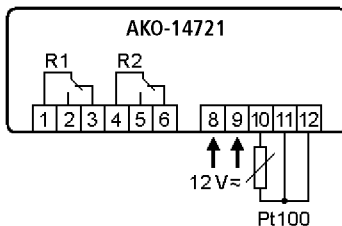
- Temperature range with probe Pt100 -99.9 °C to +850,0 °C
- Temperature range with thermocouple J -99.9 °C to +800,0 °C
- Temperature range with thermocouple K -99.9 °C to +1370 °C
- Temperature range with 4-20 mA -999 °C to +2500 °C
- Resolution 0,1 °C / Accuracy  $\pm 1$  °C
- 4 Digits display (°C/°F)
- Output control SSR 12 Vdc, max10 mA
- Front part dimensions 48 x 48 mm
- Panel cut-out dimensions 45 x 45 mm
- Depth 119 mm
- R1 relay SPST 6 A, 250 V
- R2 relay SPDT 5 A, 250 V

Reference	Description	Family	Pack
AKO-15401	20 to 48 V~, with input for C.T.	48x48 Panel	1 Unit
AKO-15402	20 to 48 V~, with communication	48x48 Panel	1 Unit
AKO-15403	20 to 48 V~, with input C.T. + comunicación	48x48 Panel	1 Unit
AKO-15451	100 to 240 V~, with input C.T.	48x48 Panel	1 Unit
AKO-15452	100 to 240 V~, with communication	48x48 Panel	1 Unit
AKO-15453	100 to 240 V~, with input C.T + communication	48x48 Panel	1 Unit
AKO-80033	Intensity transformer (C.T.) 25 A/0,05 A	48x48 Panel	25 Units

\* Available on request

## Input controllers 4/20 mA

Range from -50 °C to + 600 °C, 2 relays, panel mounting



### 2 control relays.

Programmable for direct and inverse operation. With 2 relay outputs, the controller can be used to work as 2 independent stages, 2 related stages, neutral zone and 1 stage plus alarm. It has 1 digital input for remote change of the SetPoint

Aplicación: Fyers, electric panels, industrial installations, sewage treatment

- Temperature range -50 °C to +600 °C
- 3 digits display
- Resolution 1 °C
- Accuracy  $\pm 0,5$  °C
- Pt100 probe
- Panel cut-out dimensions 70,5 x 28,5 mm
- Front part dimensions 75,8 x 33,8 mm
- Depth 61 mm
- Control relay 2 SPDT 8 A, 250 V
- Power supply 12 V~  $\pm 15\%$ , 50/60 Hz

Reference	Description	Family	Pack
AKO-14721	12 V~, Pt-100 probe no included	Control Industrial	12 Units



# Temperature or humidity controllers

2 relays output, panel mounting



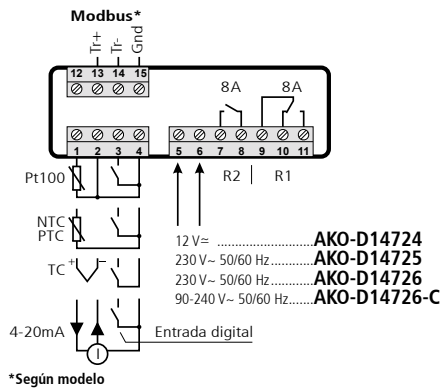
**Input for Pt100, NTC, PTC probes, J and K thermocouple, 4-20 mA**

Programmable for cold and heat.

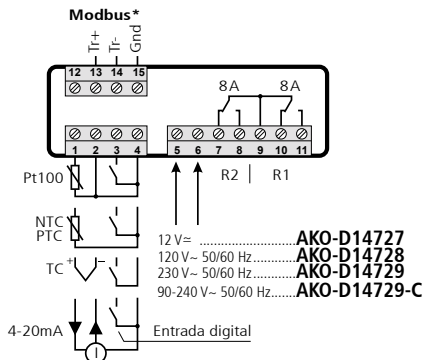
With the 2 relay outputs, the controller can be used to work as 2 independent stages, 2 related stages, neutral zone and one stage plus alarm. Digital input for SetPoint change.

Application Ovens, electric panels, industrial installations, incubators, etc.

## AKO-D14724/6/6-C



## AKO-D14727/9/9-C

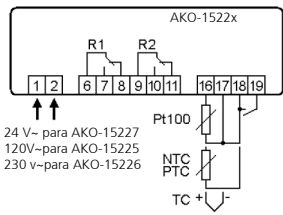


- Temperature range with probe Pt100 -100 °C to +440 °C
- Temperature range with probe NTC -50 °C to +100 °C
- Temperature range with probe PTC -50 °C to +150 °C
- Range 4-20 mA from -999 to + 999
- Temperature range with thermocouple J 0 °C to +600 °C
- Temperature range with thermocouple K 0 °C to +1000 °C
- Resolution 0,1 °C (1 °C for thermocouples J, K)
- Accuracy ±1 °C (±2 °C for thermocouples J, K)
- 3 Digits display (°C/°F)
- Panel cut-out dimensions 71 x 29 mm
- Front part dimensions 79 x 38 mm
- Depth 61 mm
- Control relay 1, 8 A SPST-SPDT: AC1=8, AC3=4 (available depending reference)
- Control relay 2, 8 A SPDT: AC1=8, AC3=4
- RS 485 integrated communication (AKO-14726-C and AKO-14729-C)

Reference	Description	Family	Pack
AKO-D14724	12 V~, temperature or humidity controller	Control Industrial	12 Units
AKO-D14725	120 V~, temperature or humidity controller	Control Industrial	12 Units
AKO-D14726	230 V~, temperature or humidity controller	Control Industrial	12 Units
AKO-D14726-C	90-240 V~, temperature or humidity controller + communication	Control Industrial	12 Units
AKO-D14728	12 V~, temperature or humidity controller	Control Industrial	12 Units
AKO-D14729	230 V~, temperature or humidity controller	Control Industrial	12 Units
AKO-D14729-C	90-240 V~, temperature or humidity controller + communication	Control Industrial	12 Units

## Temperature controllers

Range from -99.9 °C to +999 °C, 2 relays, DIN rail mounting



### Input for Pt100, NTC, PTC probes, J and K thermocouple.

With the 2 relay outputs, the controller can be used to work as 2 independent stages, 2 related stages, neutral zone and one stage plus alarm. Digital input for SetPoint change.

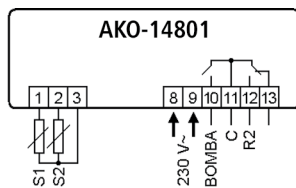
Application: Ovens, electric panels, industrial installations, incubators, etc.

- Temperature range with probe Pt100 -100 °C to +440 °C
- Temperature range with probe NTC -50 °C to +100 °C
- Temperature range with probe PTC -50 °C to +100 °C
- Temperature range with thermocouple J 0 °C a +600 °C
- Temperature range with thermocouple K 0 °C a + 999 °C
- Display 3 Digits (°C/°F)
- Resolution 0,1 °C (1 °C for thermocouples, J, K)
- Accuracy ±1 °C (±2 °C for thermocouples, J, K)
- Box dimensions 70 x 90 x 58 mm (4 DIN modules)
- Front part dimensions 42,2 x 66,2 mm
- Control relays 2 SPDT 8 A: AC1=8, AC3=4

Referencie	Description	Family	Pack
AKO-15227	24 V~, for DIN rail 4 modules, 70 x 58 x 90 mm	Control Industrial	6 Units
AKO-15225	120 V~, for DIN rail 4 modules, 70 x 58 x 90 mm	Control Industrial	6 Units
AKO-15226	230 V~, for DIN rail 4 modules, 70 x 58 x 90 mm	Control Industrial	6 Units

## Solar energy controller

Differential thermostat 2 relays, wall mounting



### Pump controls, support resistance or air-thermal.

Input for 2 probes. Probe 1 configurable as NTC or PTC, probe 2 NTC. De-icing function. Second relay programmable as air-thermal regulating function to limit the temperature in the solar panel or thermostat function for the support resistance in the accumulator. Parameter protection by password. Test pushbuttons. Low consumption. Fixing holes adapted to universal embedding box.

Application: Thermal solar energy installations

- NTC probe temperature range -50 °C to +99.9 °C
- PTC probe temperature range -50°C to +150 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- Box dimensions 171 x 94 x 42 mm
- Pump relay SPST 16 A: AC1=12, AC3=9
- Relay R2 SPDT 8 A: AC1=8, AC3=4
- Power supply 230V~ ±10%,50/60 Hz

Referencie	Description	Family	Pack
AKO-14801	Controller 230 V~, 2 relays, 1 NTC probe included	AKOSOL-Solar Energy	10 Units

# Solar Energy Regulators

Differential thermostats for 1 and 2 relays for wall mounting



Wall mounting Differential Thermostat for devices producing thermal solar energy, with an integrated or independent accumulator, and including a support tank

Application: Thermal solar energy facilities.

- Configuration wizard according to equipment type
- Relay for pumping of 8A SPST (AKO-D1482x)
- Relay for Air heater/Support resistance 16A
- Two inputs for temperature probe
- AKO-D1482x with an additional input for temperature probe panel
- AKO-D1482x with ECO mode

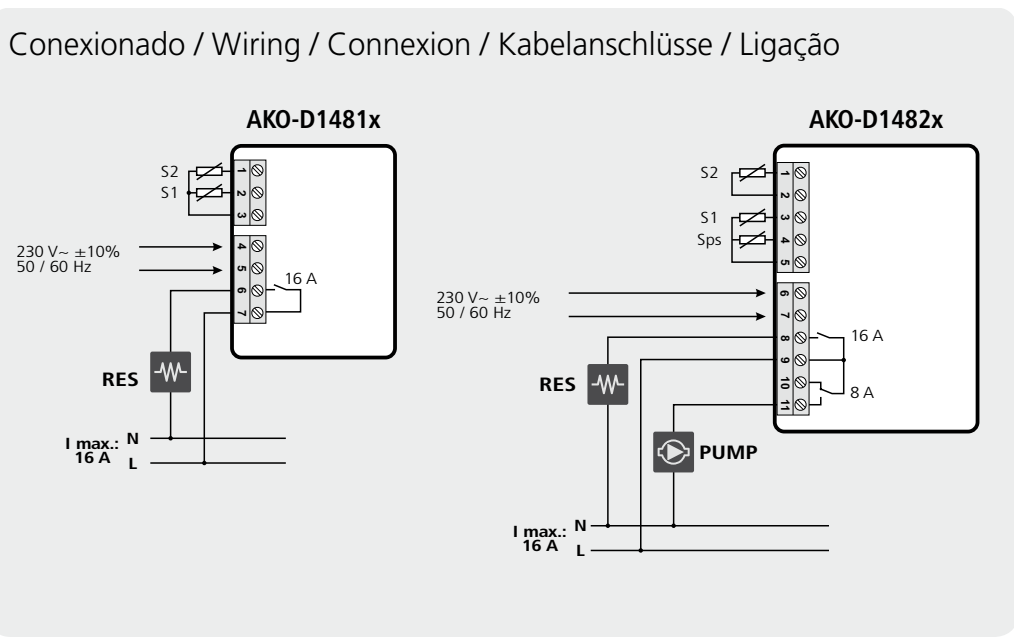
**Types of probes S1 / S2** NTC AKO-149xx/PTC AKO-1558xx  
 Sps PT1000

**Range of measurement** NTC -50.0 °C to +99.9 °C (-58.0 °F to 210 °F)  
 PTC -50.0 °C to +150 °C (-58.0 °F to 320 °F)  
 PT1000 -50.0 °C to +200 °C (-58.0 °F to 392 °F)

**Resolution** -50 to 100 °C 0.1 °C  
 > 100 °C 1 °C

**Box dimensions** 171 x 94 x 42mm

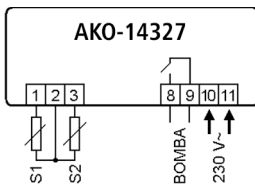
**Power supply** 230Vac +-10%, 50/60Hz



Reference	Description	Family	Packaging
AKO-D14810	Wall Differential Thermostat 1 Relay	AKOSOL	10 Units
AKO-D14810-R	Wall Differential Thermostat 1 Relay with RTC	AKOSOL	10 Units
AKO-D14820	Wall Differential Thermostat 2 Relay	AKOSOL	10 Units
AKO-D14820-R	Wall Differential Thermostat 2 Relays with RTC	AKOSOL	10 Units

## Solar energy controllers

### Panel differential thermostat



#### Panel differential thermostat

Input for 2 NTC probes. De-icing function. Pump stop for excessive temperature in probe 2. Low consumption.

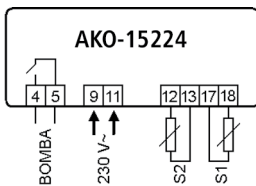
Application: Thermal solar energy installations

- Temperature range from -50 °C to + 99.9 °C
- Resolution 1 °C
- Accuracy ±1 °C
- Panel cut-out dimensions 70,5 x 28,5 mm
- Front part dimensions 75,8 x 33,8 mm
- Depth 61 mm
- Pump relay SPST 16 A: AC1=10, AC3=7
- Power Supply 230 V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-14327	Controller 230 V~, 1 relay, 1 NTC probe included	AKOSOL-Solar Energy	12 Units

## Solar energy controllers

### Differential thermostat, DIN rail mounting (4 modules)



#### DIN rail format for panel integration.

Input for 2 NTC probes. De-icing function. Pump stop for excessive temperature in probe 2. Low consumption.

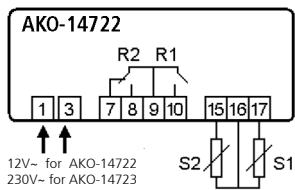
Application: Thermal solar energy installations

- Temperature range from -50 °C to +99.9 °C
- Display 3 Digits (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Box dimensions 70 x 90 x 58 mm (4 DIN modules)
- Front part dimensions 42,2 x 66,2 mm
- Pump relay SPST 16 A: AC1=12, AC3=9
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-15224	Controller 230 V~, 1 relay, 1 NTC probe included	AKOSOL-Solar Energy	6 Units

## Temperature controllers

2 relays, up to 2 probes, panel mounting



### Multifunction device

The two probe inputs may be linked with the relay outputs for the functions of thermometer and thermostat in cold and heat applications, as a differential control of the two probes, double thermostat, two stages, neutral zone, etc. The configuration of the menus means that certain parameters may or may not be adjusted by the user, so that they might exclusively have the information and adjustment that the use of the machine requires. It is possible to modify the functions of the keys on the front and the temperature display. The configuration may be blocked by password.

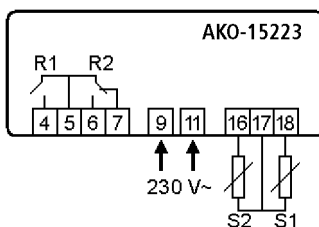
Application: Solar energy, electric panels, industrial installations, etc

- Temp range from -50 °C to + 99.9 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy 0,5 °C
- NTC probe (1 included)
- Panel cut-out 70,5 x 28,5 mm
- Front part dimensions 75,8 x 33,8 mm
- Depth 61 mm
- Relay R1 SPST 16 A: AC1=12, AC3=9
- Relay R2 SPDT 8 A: AC1=8, AC3=4

Referencie	Description	Family	Pack
AKO-14722	12 V~, for panel cut-out 70,5 x 28,5 mm	Industrial Control	12 Units
AKO-14723	230 V~, for panel cut-out 70,5 x 28,5 mm	Industrial Control	12 Units

## Temperature controllers

2 relays, up to 2 probes, DIN rail mounting



### Multifunction device

The two probe inputs may be linked with the relay outputs for the functions of thermometer and thermostat in cold and heat applications, as a differential control of the two probes, double thermostat, two stages, neutral zone, etc. The configuration of the menus means that certain parameters may or may not be adjusted by the user, so that they might exclusively have the information and adjustment that the use of the machine requires. It is possible to modify the functions of the keys on the front and the temperature display. The configuration may be blocked by password.

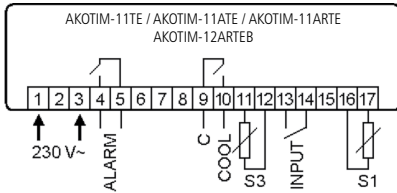
Application: Solar energy, electric panels, industrial installations, etc

- Temp range from -50 °C to + 99.9 °C
- 3 digits displays (°C/°F)
- Resolution 0,1 °C
- Accuracy 0,5 °C
- NTC probe (1 included)
- Box dimensions 70 x 90 x 58 mm (4 modules DIN)
- Front part dimensions 42,2 x 66,2 mm
- Relay R1 SPST 16 A: AC1=12, AC3=9
- Relay R2 SPDT 8 A: AC1=8, AC3=4
- Power supply 230 V~ ±10%, 50/60 Hz

Referencie	Description	Family	Pack
AKO-15223	230 V~, for DIN rail	Industrial Control	6 Units

## Modular controllers AKOTIM

Range from -50 °C to +99.9 °C, 1 relay, panel mounting



### Compressor control relay

Used to regulate the temperature of cold generators and to display the information from the operation log on, the refrigeration time, the defrost time and the complete cycle. They store information on the maximum and minimum temperatures reached, in addition to other useful parameters to the HACCP. Programme-selectable indication in °C o °F 2 inputs for control probe and independent temperature. Digital input for door contact. Defrost by compressor stop.

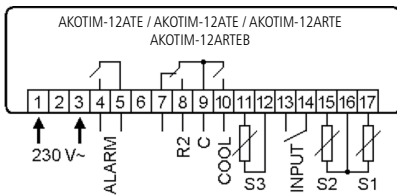
Application: Industrial and commercial cold, displays, electrical panels, etc.

- Temp range from -50 °C to + 99.9 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Front part dimensions 75,8 x 33,8 mm
- Panel cut-out 70,5 x 28,5 mm
- Depth 61 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Alarm relay SPST 6 A: AC1=5, AC3=4 (No AKOTIM-11TE)
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Alarm relay	Real time clock	Buzzer	Family	Pack
AKOTIM-11TE	-	-	-	AKOTIM	12 Units
AKOTIM-11ATE	yes	-	-	AKOTIM	12 Units
AKOTIM-11ARTE	yes	yes	-	AKOTIM	12 Units
AKOTIM-11ARTEB	yes	yes	yes	AKOTIM	12 Units

## Modular controllers AKOTIM

Range from -50° C to +99.9 °C, 2 relays, panel mounting



### Compressor relay and R2 (defrost or fans)

Used to regulate the temperature of cold generators and to display the information from the operation log on, the refrigeration time, the defrost time and the complete cycle. They store information on the maximum and minimum temperatures reached, in addition to other parameters of use to the HACCP, 3 inputs for regulating probe, evaporator and independent temperature. Digital input for door contact. Defrost by electric heat or air. Programme-selectable indication in °C o °F.

Application: Industrial and commercial cold, displays, electrical panels, etc.

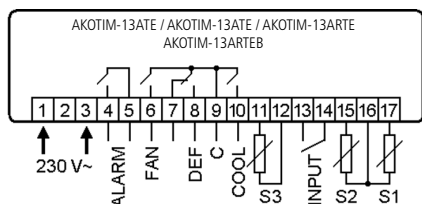
- Temperature range -50 °C to +99.9 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Front part dimensions 75,8 x 33,8 mm
- Panel cut-out 70,5 x 28,5 mm
- Depth 61 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Relay R2 SPDT 8 A: AC1=8, AC3=4
- Alarm relay SPST 6 A: AC1=5, AC3=4 (No AKOTIM-12TE)
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Alarm relay	Real time clock	Buzzer	Family	Pack
AKOTIM-12TE	-	-	-	AKOTIM	12 Units
AKOTIM-12ATE	yes	-	-	AKOTIM	12 Units
AKOTIM-12ARTE	yes	yes	-	AKOTIM	12 Units
AKOTIM-12ARTEB	yes	yes	yes	AKOTIM	12 Units



## Modular controllers AKOTIM

Range from -50 °C to + 99.9 °C, 3 relays, panel mounting



### Relay for compressor, fans and defrost

Used to regulate the temperature of cold generators and to display the information from the operation log on, the refrigeration time, the defrost time and the complete cycle. They store information on the maximum and minimum temperatures reached, in addition to other useful parameters to the HACCP. Programme-selectable indication in °C or °F. 2 inputs for control probe and independent temperature. Digital input for door contact. Defrost by electric heat, air or hot gas bypass.

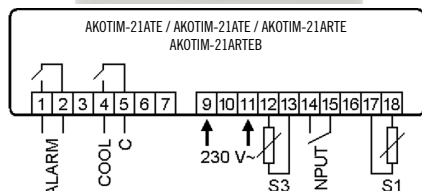
Application: Industrial and commercial cold, displays, electrical panels, etc.

- Temperature range from -50 °C a + 99.9°C
- 3 digit Display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Front part dimensions 75,8 x 33,8 mm
- Panel cut-out 70,5 x 28,5 mm
- Depth 61 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Fan relay SPST 6 A: AC1=5, AC3=4
- Defrost relay SPDT 8 A: AC1=8, AC3=4
- Alarm relay SPST 6 A: AC1=5, AC3=4 (No AKOTIM-13TE)
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Alarm relay	Real time clock	Buzzer	Family	Pack
AKOTIM-13TE	-	-	-	AKOTIM	12 Units
AKOTIM-13ATE	yes	-	-	AKOTIM	12 Units
AKOTIM-13ARTE	yes	yes	-	AKOTIM	12 Units
AKOTIM-13ARTEB	yes	yes	yes	AKOTIM	12 Units

## Controles modulares AKOTIM

Range from -50 °C to +99.9 °C, 1 relay, rail DIN mounting



### Compressor control relay

Used to regulate the temperature of cold generators and to display the information from the operation log on, the refrigeration time, the defrost time and the complete cycle. They store information on the maximum and minimum temperatures reached, in addition to other useful parameters to the HACCP. Programme-selectable indication in °C o °F. 2 inputs for control probe and independent temperature. Digital input for door contact. Defrost by compressor stop.

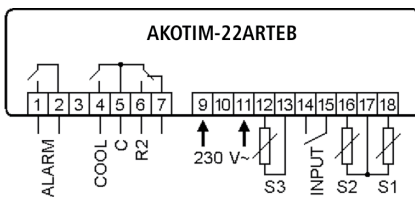
Application: Industrial and commercial cold, displays, electrical panels, etc.

- Temperature range from -50 °C to +99.9 °C
- 3 digit display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Box dimensions 70 x 90 x 58 mm (4 modules DIN)
- Front part dimensions 42,2 x 66,2 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Fan relay SPST 6 A: AC1=5, AC3=4
- Defrost relay SPDT 8 A: AC1=8, AC3=4
- Alarm relay SPST 6 A: AC1=5, AC3=4 (No AKOTIM-21TE)
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Alarm relay	Real time clock	Buzzer	Family	Pack
AKOTIM-21TE	-	-	-	AKOTIM	12 Units
AKOTIM-21ATE	yes	-	-	AKOTIM	12 Units
AKOTIM-21ARTE	yes	yes	-	AKOTIM	12 Units
AKOTIM-21ARTEB	yes	yes	yes	AKOTIM	12 Units

## Modular controllers AKOTIM

Range from -50 °C to +99.9 °C, 2 relays, DIN rail mounting



### Compressor relay and R2 (defrost or fans)

Used to regulate the temperature of cold generators and to display the information from the operation log on, the refrigeration time, the defrost time and the complete cycle. They store information on the maximum and minimum temperatures reached, in addition to other useful parameters to the HACCP. 3 inputs for regulating probe, evaporator and independent temperature. Digital input for door contact. Defrost by electric heat or air. Programme-selectable indication in °C or °F.

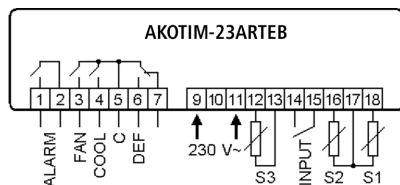
Application: Industrial and commercial cold, displays, electrical panels, etc.

- Temperature range from -50 °C to +99.9 °C
- 3 digits display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Box dimensions 70 x 90 x 58 mm (4 modules DIN)
- Front part dimensions 42,2 x 66,2 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Alarm relay SPST 6 A: AC1=5, AC3=4 (No AKOTIM-22TE)
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Alarm relay	Real time clock	Buzzer	Family	Pack
AKOTIM-22TE	-	-	-	AKOTIM	6 Units
AKOTIM-22ATE	yes	-	-	AKOTIM	6 Units
AKOTIM-22ARTE	yes	yes	-	AKOTIM	6 Units
AKOTIM-22ARTEB	yes	yes	yes	AKOTIM	6 Units

## Modular controllers AKOTIM

Range from -50 °C to +99,9 °C, 3 relays, DIN rail mounting



### Relay for compressor, fans and defrost

Used to regulate the temperature of cold generators and to display the information from the operation log on, the refrigeration time, the defrost time and the complete cycle. They store information on the maximum and minimum temperatures reached, in addition to other useful parameters to the HACCP. Programme-selectable indication in °C or °F. 2 inputs for control probe and independent temperature. Digital input for door contact. Defrost by electric heat, air or hot gas bypass.

Application: Industrial and commercial cold, displays, electrical panels, etc.

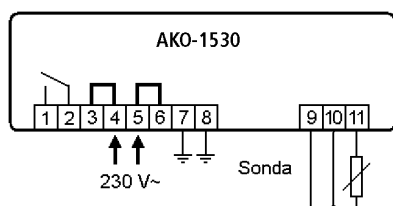
- Temp range -50 °C to + 99.9 °C
- 3 digit display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Box dimensions 70 x 90 x 58 mm (4 modules DIN)
- Front part dimensions 42,2 x 66,2 mm
- Compressor relay SPST 16 A: AC1=12, AC3=9
- Fan relay SPST 6 A: AC1=5, AC3=4
- Defrost relay SPDT 8 A: AC1=8, AC3=4
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Alarm relay	Real time clock	Buzzer	Family	Pack
AKOTIM-23TE	-	-	-	AKOTIM	6 Units
AKOTIM-23ATE	yes	-	-	AKOTIM	6 Units
AKOTIM-23ARTE	yes	yes	-	AKOTIM	6 Units
AKOTIM-23ARTEB	yes	yes	yes	AKOTIM	6 Units



## Temperature controllers

Range from -50 °C to + 350 °C, 1 relay in IP65 box



### Suitable for outdoors

It is designed to regulate the temperature of pipes, tanks, valves, processing equipment, etc. that require local control and are installed outdoors or in aggressive atmospheres, either due to dirt, humidity, corrosion, etc.

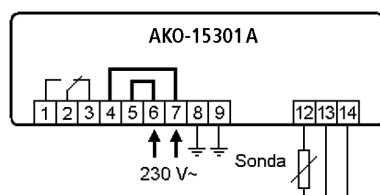
Application: Industrial installations, agricultural, etc.

- Temperature range -50 °C to +350 °C
- 3 digit display (°C/°F)
- Resolution 0,1 °C
- Accuracy ±0,5 °C
- Pt100 probe
- Box dimensions 120 x 160 x 66 mm
- Work temperature -30 °C to +60 °C
- Protection IP65
- Control relay SPST 20 A: AC1=20, AC3=12
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-1530	Thermostat up to 350 °C, relay 20 A SPST, without probe	Industrial Control	5 Units
AKO-717425	Thermostat to pipe fixing support	Accessories	1 Unit
AKO-15595	Probe Pt-100, from -50 to 200 °C, 1,5 m of cable with braid	Temperature	5 Units

## Temperature controllers

Energy controller



### Energy saving.

A controller designed to adjust the energy contribution from heating cables or other heat sources, in applications in which it must vary in line with the ambient temperature. Its use is particularly suitable in system where, once designed and applied, the only variable that influences in the system is the ambient temperature.

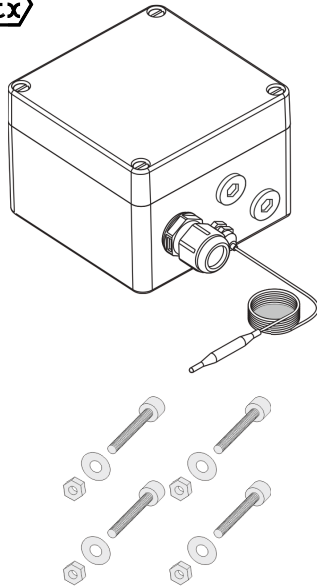
Application: Electrical traces, avoid freezing on ramps, terraces, etc.

- Temperature range -40 °C to +200 °C
- Visualizador 3 dígitos (°C/°F)
- Resolución 0,1 °C
- Precisión ±0,5 °C
- Sonda tipo Pt100
- Box dimensions 120 x 160 x 66 mm
- Protection IP65
- Control relay SPST 10 A: AC1=10, AC3=6
- Power supply 230 V~ ±10%, 50/60 Hz

Reference	Description	Family	Pack
AKO-15301A	Energy regulator ambient temperature function, 10 A relay	Industrial Control	1 Unit
AKO-15599	Pt-100 probe for ambient temperature	Temperature	1 Unit

## Mechanical thermostat

Thermostats Ex of IIC T6. T3



Suitable for hazardous locations. (Zones 1 and 2). It is designed to regulate the temperature of pipes, tanks, valves, process equipment, etc. that require local control and are installed outdoors or in environments that are harsh due to dirt, moisture, corrosion, etc.

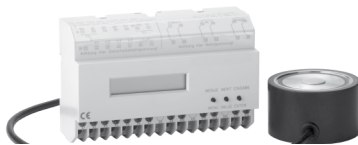
Application: electrical heat-tracing

	AKO-71667	AKO-71668
Temperature range:	0 °C to +200 °C	+20 °C to +550 °C
Acceptable temperatures in bulb:	-60 °C/330 °C (Máx. 350 °C)	
Temperature differential	+5/0 K	+12.5/0 K
Ambient temperatures	-55 °C to +40/50 °C	
Bulb material	AISI 316	
Bulb length	5 m	3 m
Switch cutting capacity (230 Vac)	25 A/50 °C/T3	
Nominal voltage	230 V ± 10%	
Box material	Polyester	
Box dimensions	160 x 160 x 90 mm	
Inputs into box	1xM25, 2xM20	
Protection degree	IP 65	

Reference	Description	Family	Packaging
AKO-71667	Thermostat control, 0 to 200 °C, Ex of IIC T6.T3, capillary 5 m	Industrial control	1 unit
AKO-71668	Thermostat control, +20 to 500 °C, Ex of IIC T6.T3, capillary 3 m	Industrial control	1 unit

## Temperature controllers

Ice and snow centre



**Guaranteeing energy savings of 80% with respect to control by means of thermostats.**

This ice control centre is used in automatic heating installations for open spaces. With this system, the heating comes on only if there is a chance of freezing, for example, snow, ice or sleet and automatically turns off after thawing.

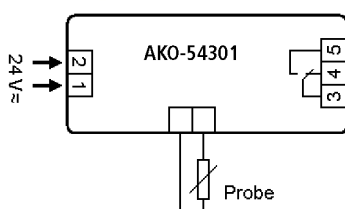
Application: To avoid ice on ramps, terraces, roofs, guttering, etc.

- Measurement of temperature, humidity, ice and snow
- Floor temperature range -40 °C to +70 °C
- Programme after heat from 10 min to 120 min
- Consumption meter in hours

Reference	Description	Family	Pack
AKO-80015	Ice and snow centre	Industrial Control	1 Unit
AKO-80016	Temp. and humidity probe for ramps, streets, pavements and terraces	Ice and Snow	1 Unit
AKO-80020	Ice and snow probe for ramps, streets, pavements and terraces	Ice and Snow	1 Unit
AKO-80030	Ice and snow ramp for roofs and guttering	Ice and Snow	1 Unit
AKO-80031	Ice and snow ramp for roofs and guttering	Ice and Snow	1 Unit

## Temperature controllers

Thermostats for lifts



### DIN rail mounting

They are used to comply with the directive 95/16/EC in lift machinery rooms. Minimum alarm level adjusted to +5 °C and maximum alarm to +40 °C. 3 indication leds: Maximum, minimum alarm and temperature OK. Includes an NTC probe with 1,5 m of cable.

Application: Lifts

- Relay connected between 5 °C and 40 °C
- Accuracy ±5 °C
- NTC probe
- Box dimension 18 x 90 x 58 mm (1 module DIN)
- Depth 61 mm
- Relay SPDT 8 A, 24 V
- Power supply 24 V~ ± 20% 50/60 Hz

Reference	Description	Family	Pack
AKO-54301	24 V~, DIN rail mounting, temp. fixed. min. 5 °C max. 40 °C	Industrial Control	12 Units

## Probes and accessories

Accessories



\*AKO-14910



AKO-80004A



AKO-15586



AKO-155908

Reference	Description	Family	Pack
AKO-14910*	Transparent lid for front protection (no available to Darwin)	Accessories	120 Units (B)
AKO-15586	Metre of cable for extending probes, 2 x 0,5 mm <sup>2</sup> shielded	Accessories	10 0m (A)
AKO-155908	Stainless steel sheath, 1/2" Gas thread	Accessories	10 Units
AKO-80004A	Converter from Pt-100 to 4-20 mA	Accessories	1 Unit

(A) The meters of packaged material are the standard ones; however, we reserve the right to supply in different lengths those indicated.

(B) Minimum, indivisible pack units.

\*No available to Darwin.

## Probes and accessories

### Temperature probes

Reference	Description	Familia	Pack
AKO-14901	NTC probe, from -50 to 100 °C, 1,5 m of cable	Temperature	48 Units
AKO-14902	NTC probe, from -50 to 100 °C, 2,0 m of cable	Temperature	48 Units
AKO-14903	NTC probe, from -50 to 100 °C, 3,0 m of cable	Temperature	48 Units
AKO-14906	NTC probe, from -50 to 100 °C, 6,0 m of cable	Temperature	24 Units
AKO-14915	NTC probe, from -50 to 100 °C, stainless steel connector, 3,0 m of cable	Temperature	1 Units
AKO-14940	Spare probe, temperature and humidity (For AKO-15726)	Accesories	4 Units
AKO-15561	NTC probe, from -50 to 100 °C, IP68 protection, AISI 304. 1,5 m of cable	Temperature	10 Units
AKO-155801	PTC probe, from -50 to 150 °C, 1,5 m of cable	Temperature	10 Units
AKO-155802	PTC probe, from -50 to 150 °C, 2,0 m of cable	Temperature	10 Units
AKO-155803	PTC probe, from -50 to 150 °C, 3,0 m of cable	Temperature	10 Units
AKO-155807	PTC probe, from -50 to 150 °C, 7,0 m of cable	Temperature	10 Units
AKO-155815	PTC probe, from -50 to 150 °C, 15,0 m of cable	Temperature	5 Units
AKO-155830	PTC probe, from -50 to 150 °C, 30,0 m of cable	Temperature	1 Unit
AKO-15582	Pt-100 probe, from -50 to 180 °C, 2,0 m of cable without braid	Temperature	1 Unit
AKO-15584	Pt-100 probe, from -50 to 180 °C, 10,0 m of cable without braid	Temperature	1 Unit
AKO-15585A	Pt-100 probe, from -40 to 180 °C, 2,0 m of cable without braid	Temperature	1 Unit
AKO-15595	Pt-100 probe, from -50 to 200 °C, 1,5 m of cable with braid	Temperature	5 Units
AKO-15587	Pt-100 probe, from -60 to 350 °C, 2,0 m of cable with braid	Temperature	1 Unit
AKO-15597	Pt-100 probe, from -70 to 200 °C, 2,0 m of teflon cable	Temperature	1 Unit
AKO-15598	Pt-100 probe, from -200 to 600 °C, 1,5 m of MI cable	Temperature	1 Unit
AKO-15599	Pt-100 probe for environment temperature	Temperature	1 Unit
AKO-80008	Pt-100 probe EExd IIT6, IP65 box, to drums	Temperature	1 Unit
AKO-80019	Pt-100 probe EExd IIT6, for Ex zone and pipes	Temperature	1 Unit
AKO-15601	J probe, de 0 a 600 °C, 3,0 m of cable	Temperature	1 Unit
AKO-15602	K probe, de 0 a 1.000 °C, 3,0 m of cable	Temperature	1 Unit
AKO-15586	Metre of cable for extending probes, 3 x 0,5 mm2 shielded	Temperature	100m (A)
AKO-15705	Metre of cable for extending probes, 4 x 0,5 mm2 shielded	Temperature	100m (A)

(A) The meters of packaged material are the standard ones; however, we reserve the right to supply in different lengths those indicated.

## Parameter servers



AKO-14918



AKO-80018

### Tools for copying parameters

Computers with the same configuration must be set.  
The portable servers allow the installer to load quickly one preprogrammed settings to computers without having to enter programming.

Reference	Description	Family	Pack
AKO-14917	Converter module CMOS/RS485	Accessories	6 Units
AKO-14918*	Portable server for AKO-14xxx (No Darwin)	Accessories	10 Units
AKO-D14918	Portable server for Darwin	Accessories	1 Unit
AKO-80018	Power supply 230/12 V for programmers (Darwin devices)	Accessories	1 Unit
AKO-80039	USB-RS485 conversor	Accessories	1 Unit

\*Portable server incompatible with AKOCONTROL DARWIN

## Quick table for probes and accessories

Reference	Description	Temperature range	
<b>NTC temperature probes</b>			
(A) AKO-14901	TPE 1,5 meter long TPE 15x ø meter cable	range -50 °C to 105 °C	
(A) AKO-14902	TPE 2 meter long TPE 15x ø meter cable	range -50 °C to 105 °C	
(A) AKO-14903	TPE 3 meter long TPE 15x ø meter, bulb 6 mm	range -50 °C to 105 °C	
(A) AKO-14906	TPE 6 meter long TPE 15x ø meter, bulb 6 mm	range -50 °C to 105 °C	
(B) AKO-15561	special evaporator and sumpdesible IP68 stainless steel bulb 6 mm 40 x ø	range -50 °C to 105 °C	
(C) AKO-14915	click specia probe, silicone cable 3 meters AISI 304 bulb stainless steel ø3 mm	range -50 °C to 110 °C	
<b>PTC temperatura probes</b>			
AKO-155801	silicone cable 1,5 metros stainless bulb 6 mm 40 x ø	range -50 °C to 105 °C	
AKO-155802	silicone cable 2 metros stainless bulb 6 mm 40 x ø	range -50 °C to 150 °C	
AKO-155803	silicone cable 3 metros stainless bulb 6 mm 40 x ø	range -50 °C to 150 °C	
AKO-155807	silicone cable 7 metros stainless bulb 6 mm 40 x ø	range -50 °C to 150 °C	
AKO-155815	stainless bulb15 metros stainless bulb 6 mm 40 x ø	range -50 °C to 150 °C	
AKO-155830	silicone cable 30 metros stainless bulb 6 mm 40 x ø	range -50 °C to 150 °C	
<b>Pt100 temperature probes</b>			
(A) AKO-15585A	silicone cable 2 meters AISI 316 stainless bulb100 ø 6 mm	range -40 °C to 180 °C	
AKO-15587	fiber cable 2 meters AISI 316 stainless bulb 100 ø 6 mm	range -60 °C to 350 °C	
(B) AKO-15596	silicone cable 1,6 meters AISI 316 stainless bulb , ángulo, ø 6 mm	range -200 °C a 200 °C	
(C) AKO-15597	teflon cable 2 meters AISI 316 stainless bulb 100 ø 6 mm	range -100 °C to 200 °C	
<b>Temperature probes &amp; thermopar</b>			
AKO-15601	thermopar type J, fiber cable 3 meters AISI 316 stainless bulb 100 ø 3 mm	range -0 °C to 600 °C	
AKO-15602	thermopar type K, fiber cable 3 meters stainless bulb 4,5 mm 150 x ø	range -0 °C to 1000 °C	
<b>4-20 Humidity probes</b>			
(A) AKO-80040	tubular humidity probe stainless filter 10% a 95% RH	range -10 °C to 70 °C	
(B) AKO-80013	HVAC dryers applications stainless filter 10% a 95% RH	range -5 °C to 50 °C	
<b>Accessories for controllers</b>			
(A) AKO-14910	transparent cover for front protection (minimum order 120 unities)		
(B) AKO-15586	protection cable 30 x 30 5m2, for probe extensions NTC, PTC and PT100 (price per meter)		
(C) AKO-15908	1/2" wire GAS. Diameter 8 mm, lenght 140 mm AISI 304 Stainless sheat		
<b>Transformers and power</b>			
(A) AKO-15589	Power converter 14 to 30 V/ 125 V, 5 VA. Rail DIN mounting DIN, used to 24 V thermostat, Power supply up to 10 probes		
(B) AKO-15590	Transformer 120-230 V 12 V, maximum consumption 3 VA		
(C) AKO-80014A	Power Supply 115-230 V/ 24 V, 1A , AKO-80013 & AKO80014A Power Supply probe		

## AKOCAM

Alarms, gas detectors, dataloggers and temperature controllers for cold room stores



# CAMCtrl BASIC

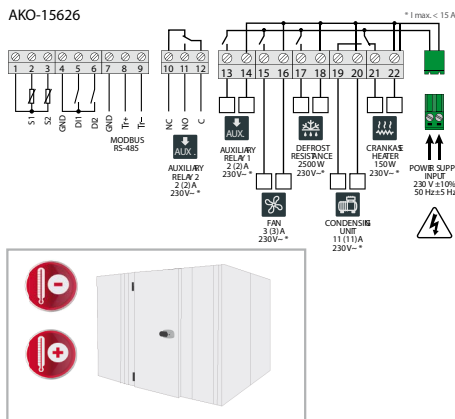
5 control relays, from -50 °C to 99.9 °C



**Temperature controller for positive or negative temperature cold storage rooms**

Ideal for positive or negative services and ventilated refrigerated units. Defrost using resistances with configurable auxiliary relay. Gas collection manoeuvre (pump-down) selectable per programme. Digital inputs for door switch, high pressure controller, low pressure controller, remote defrost, Set-Point change (energy savings). Allows a 2nd temperature probe to control the evaporator's fans and end of defrost. Does not contain an internal battery.

Application: Industrial and commercial refrigeration.



- Box dimensions 230 x 230 x 90 mm
- Panel cut-out 14 x 214 mm
- Protection IP65
- Buzzer
- NTC Probe / Resolution 0,1 °C
- Accuracy ±1 °C
- Comp. relay SPDT 20, 11(11)A, 230 V, AC=11
- Fan relay SPST 16, 3(3)A, 230 V, AC3=3
- Defrost relay SPST 16, 10A, 230 V, AC1=10
- Aux relay 1 SPST 16, 2(2)A, 230 V, AC=2
- Aux relay 2 SPDT 8, 2(2)A , 230 V, AC=2
- 2 configurable relay inputs
- Power free relay for compressor (In AKO-15626-1)

Reference	Description	Family	Pack
AKO-15626	CAMCtrl Basic,1 probe included, 230 V~	CAMCTRL-Cold Rooms Control	1 Unit
AKO-15626-1	CAMCtrl Basic,1 probe included, 230 V~	CAMCTRL-Cold Rooms Control	1 Unit
AKO-15627	CAMCtrl Basic + Alarm, 1 probe included, 230 V~	CAMCTRL-Cold Rooms Control	1 Unit

# CAMCtrl

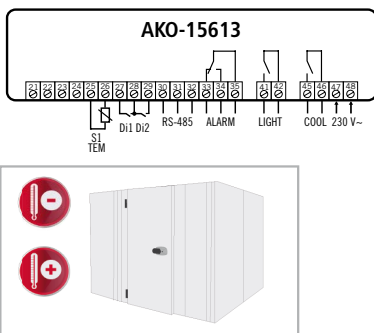
3 and 6 control relays, from -40 °C to +99.9 °C



**Controller with built-in register.**

Graphic screen with customisable information. Programming assistant and on screen help. Auxiliary relay configurable for 2nd evaporator defrost or stop for pump down. Input for independent temperature probe or defrost control in 2nd evaporator. Internal memory up to one year for temperature register, with a battery for autonomy up to 48 hours. Designed under EN 12830 European standard. Wall and panel mounting. Integrated RS485 communication. ModBus protocol.

Application: Industrial and commercial cold.



- Box dimensions 230 x 230 x 90 mm
- Panel cut-out 214 x 214 mm
- Protection IP65
- Buzzer
- NTC probe / Resolution 0,1 °C
- Accuracy ±1 °C
- Compressor relay SPST 16 A, 250 V
- Fan relay SPST 8 A, 250 V (AKO-1563x)
- Defrost relay SPDT 16 A, 250 V (AKO-1563x)
- Aux relay SPST 16 A, 250 V (AKO-1563x)
- Light relay SPST 16 A, 250 V
- Alarm relay SPDT 8 A, 250 V
- 2 configurable relay inputs

Reference	Description	Family	Pack
AKO-15613	CAMCtrl-3, 230 V~	CAMCTRL-Cold Rooms Control	1 Unit
AKO-156131	CAMCtrl-3 + printer, 100 to 240 V~	CAMCTRL-Cold Rooms Control	1 Unit
AKO-15633	CAMCtrl-6, 230 V~	CAMCTRL-Cold Rooms Control	1 Unit
AKO-156331	CAMCtrl-6 + print , 100 to 240 V~	CAMCTRL-Cold Rooms Control	1 Unit

# CAMRegis BASIC

Slim temperature, humidity and events datalogger, according to European Standard EN 12830

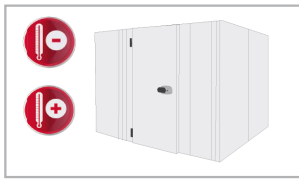
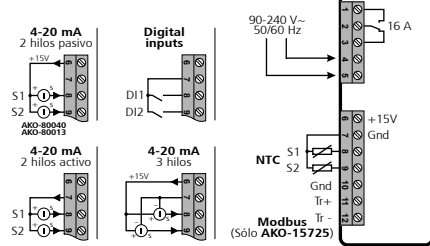


### Inputs for NTC probes and 4-20 mA

Date logger with two configurable inputs, acoustic alarm + alarm relay and data downloading using an memory card. Display of maximum and minimum values of the last 24 hours (NTC and 4-20 mA inputs). Alarm logging function, saves a record per alarm activation/deactivation. Downloading of the stored data onto an memory card, in .csv format (value table separated by a comma). Log interval selectable from 1, 5, 15, 30 and 60 minutes. Maintenance of date/hour in the event of a power failure up to 2 days.

Application: Industrial and commercial refrigeration, process industry, etc. Loggers for facilities that require temperature, moisture and events logging.

### AKO-15724 / AKO-15725



- Temp range -50 °C to + 99.9 °C
- Range 4-20 mA -100 to +900
- Display and logging 0.1 °C.
- Precision ±1 °C
- Precision inputs 4-20 mA ±1% (mA)
- Box dimensions 171 x 94 x 42 mm
- Alarm relay 2 SPDT 8 A, 250 V
- Power supply 90 to 240 V~
- Protection degree IP40
- Compatible with AKONet and SOFTRegis (configuration and monitoring software).

### Features:

	AKO-15724	AKO-15725	AKO-15726
Modbus communications	No	Yes	Yes
Inputs	2, configurable		4 (2 configurables)
Input configurations	NTC / 4-20 mA / digital input / Off		
Alarm relay	yes (SPDT 8 A)		
Acoustical alarm	yes (Buzzer)		
Power supply	90 - 240 V~		
Protection	IP40		
Memory card input	yes		
Installation	Wall		
Accordance	1 s/ EN-12830		
Included accessories	NTC Probe, SD Card and SD card USB reader		T/H Probe, SD Card and SD card USB reader
Custom range	NTC: -50 °C to 99 °C; 4-20 mA: Configurable from -100 a 900 (1000 levels) AKO-14940: Temp 0 to 50°C, Humidity 5%HR to 90% HR		

Reference	Description	Family	Pack
AKO-15724	CAMRegis Basic, 90 to 240 V~, SPDT 8A	CAMREGIS-Data loggers	4 Units
AKO-15725	CAMRegis Basic, 90 to 240 V~, SPDT 8A + Modbus communication	CAMREGIS-Data loggers	4 Units
AKO-15726	CAMRegis Basic, 90 to 240V~, NTC/4-20mA and remote probe T/H	CAMREGIS-Data loggers	4 Units
AKO-14931	Spare probe	CAMREGIS-Data loggers	12 Units
AKO-80013	Wall humidity probe	Accessories	1 Unit
AKO-80040	Tubular wall humidity probe	Accessories	1 Unit
AKO-14940	Spare probe, temperature and humidity (For AKO-15726)	Accessories	4 Units
AKO-15705	Metre of cable for extending probes, 4 x 0,5 mm2 shielded	Accessories	100m (A)



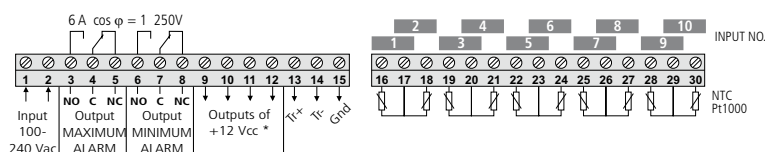


# CAMRegis

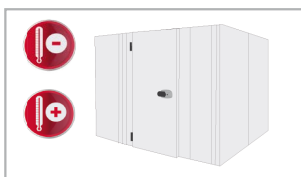
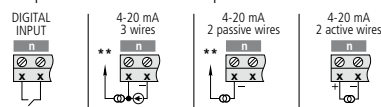
Temperature and humidity loggers, according to European Standard EN 12830



**Inputs for NTC, Pt1000 digital and 4-20 mA probes.**  
 Large, high luminosity graphic display. Setup wizard and text menus in multiple languages, with on-screen help. Quick print button, to print out the last calendar week of all entries logged. Internal memory up to three years, with a recording frequency of 15 minutes. Designed in compliance with European standard EN 12830. Integrated RS485 communications. ModBus protocol. Possibility of connecting Pt100 probes to 5-input units.  
 Application: Industrial and commercial refrigeration, processing industry, etc.



Example of connection of other probes:



- Temp range -150 °C to +590 °C
- Range 4-20 mA -999 °C to +999 °C
- Display & logging 0,1 °C.
- Accuracy ±1 °C
- Input accuracy 4-20 mA ±1% (mA)
- Box dimensions 230 x 230 x 90 mm
- 5 and 10 input logger included 5 NTC probes
- 2 input logger included 2 NTC probes
- Alarm relays 2 SPDT 8 A, 250 V
- Power supply 100 a 240 V~
- IP65 protection
- Autonomy 6 hours recording, 3 months to maintain time and date
- 5, 15 or 30 min recording interval
- New Feature TTI To The Right Food Preservation

Reference	Description	Family	Pack
AKO-15780	CAMRegis-2, 2-input temperature and humidity logger	CAMREGIS-Data loggers	1 Unit
AKO-15782	CAMRegis-2i, 2-input temperature and humidity logger + printer	CAMREGIS-Data loggers	1 Unit
AKO-15750	CAMRegis-5, 5-input temperature and humidity logger	CAMREGIS-Data loggers	1 Unit
AKO-15752	CAMRegis-5i, 5-input temperature and humidity logger + printer	CAMREGIS-Data loggers	1 Unit
AKO-15740	CAMRegis-10, 10-input temperature and humidity logger	CAMREGIS-Data loggers	1 Unit
AKO-15742	CAMRegis-10i, 10-input temperature and humidity logger + printer	CAMREGIS-Data loggers	1 Unit
AKO-14901	NTC probe from -50 to +100 °C, 1,5 m cable	Temperature	48 Units
AKO-14903	NTC probe from -50 to +100 °C, 3 m cable	Temperature	48 Units
AKO-14906	NTC probe from -50 to +100 °C, 6m cable	Temperature	48 Units
AKO-80013	Wall humidity probe,10 a 95%, -5/50°C, output 4-20 mA	Accessories	1 Unit
AKO-80040	tubular humidity probe, 5%-95%, -10/70 °C, output 4-20 mA	Accessories	1 Unit
AKO-15703	Spare roll of thermal paper	CAMREGIS-Data loggers	10 Units
AKO-15704	Spare battery	CAMREGIS-Data loggers	1 Unit
AKO-80039	USB/RS485 converter with 2 m cable to PC	Accessories	1 Unit
AKO-5008	SOFTRegis, software for managing and monitoring CAMRegis loggers	Software	1 Unit
AKO-15586	Metre of cable for extending probes, 3 x 0,5 mm2 shielded	Temperature	100m (A)

# CAMAlarm BASIC

Trapped person alarm without battery



AKO-52069



AKO-52068



AKO-52067

**Optical and acoustic alarm, for positive and negative cold rooms.**  
 This family of alarms is designed for cold room stores that work at positive temperatures up to +5 °C or redundant security system for negative cold rooms, indicating optically and acoustically (depending on the model) if anyone trapped. All units have a relay output for connection to GSM alarm system. This model is designed without battery.

Application: Cold room stores.

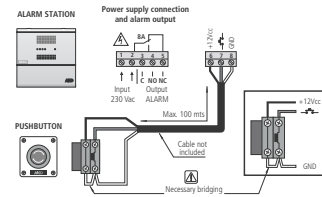
**AKO-52067 y AKO-52068:**

- Optical and acoustic alarm. Acoustic power upper 90 dB to 1 m.
- 1 output relay for remote alarm indication (GSM module)
- Battery not included
- Pushbutton protection IP65

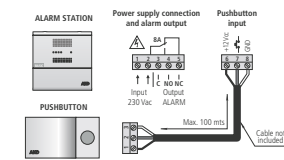
**AKO-52069:**

- Acoustic alarm. Acoustic power upper 90 dB to 1 m.
- Pushbutton protection IP65
- Battery not included

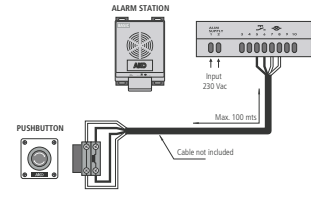
**AKO-52068**



**AKO-522067**



**AKO-52069**



Reference	Description	Family	Pack
AKO-52069	Alarm with 1 led in the pushbutton (included)	Alarms	1Unit
AKO-52068	Alarm with 1 led in the pushbutton (included)	Alarms	1Unit
AKO-52067	Alarm with 1 luminous pushbutton (included)	Alarms	1Unit
AKO-520671	Alarm station (spare AKO-52067/8)	Alarms	1Unit
AKO-520691	Alarm station (spare AKO-52069)	Alarms	1Unit
AKO-52062	Luminous pushbutton for spare alarm with 2 m of cable	Alarms	1Unit
AKO-520622	Spare for luminous pushbutton	Alarms	1Unit
AKO-52250	Protection for gas leak detector / pushbutton (Compatible with AKO-52062)	Accessories	12 Units

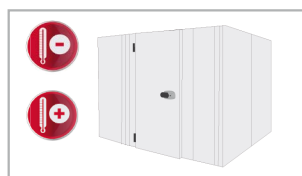
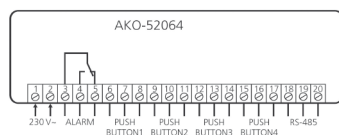
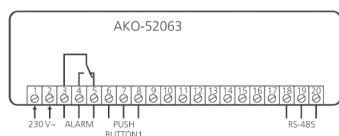
## CAMAlarm

### Trapped person alarm for cold room stores according to EN-378-1

Inside cold storage rooms equipped to operate at below zero temperatures or with artificial atmosphere, we recommend having next to the door and at a height of not over 1.25 metres, two call devices (bell, siren or telephone), one connected to an autonomous energy source, battery, accumulators, etc, suitably lit with a pilot light and so that ice cannot form on them. This pilot light will be permanently lit and will automatically connect to the emergency lighting system in the event of a fault in the power supply. In cold storage rooms that operate at temperatures from 0 °C to 5 °C you will only have to assemble one call device.



AKO-52063/4



#### Optical and acoustic alarm for positive and negative cold room stores.

This family of alarms is designed for cold room stores working at negative temperatures or with a controlled atmosphere, optically and acoustically signalling if there is someone trapped. All units have a relay output for connection to GSM alarm system. Trapped person alarm up to 4 lights.

Application: Cold room stores

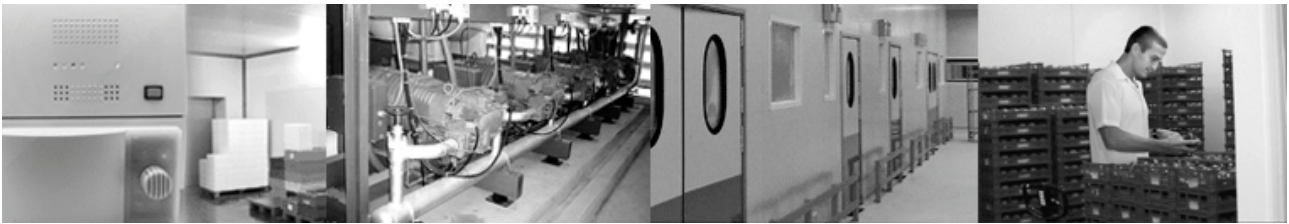
- Optical and acoustic alarm.
- Acoustic power upper 90 dB to 1 m
- Pushbutton up to -50 °C
- 2 m special cable included for low temperature
- 1 output relay for remote alarm indication (GSM module)
- Autonomy over 1 hour (AKO-52061 and AKO-52066)
- Autonomy over 10 hour (AKO-52063 and AKO-52064)
- Battery charge indication
- Wall and panel mounting
- Protection IP65
- Alarm dimensions 230 x 230 mm; Panel-cut 222 x 222 mm
- Power supply 230 V~ ±10%, 50/60 Hz (AKO-52066 = 120 V)
- RS485 for supervision system
- European Standard EN 378-1

Reference	Description	Family	Pack
AKO-52061	Alarm 230V with output for 1 luminous pushbutton (included)	Alarms	1 Unit
AKO-52066	Alarm 120V with output for 1 luminous pushbutton (included)	Alarms	1 Unit
AKO-52063	Alarm 230V with output for 1 luminous pushbutton (included)	Alarms	1 Unit
AKO-52064	Alarm 230V with output for 4 luminous pushbutton (1 included)	Alarms	1 Unit
AKO-520611	Spare power supply for AKO-52061	Alarms	1 Unit
AKO-520661	Spare power supply for AKO-52066	Alarms	1 Unit
AKO-520631	Spare power supply for AKO-52063	Alarms	1 Unit
AKO-520641	Spare power supply for AKO-52064	Alarms	1 Unit
AKO-52062	Spare pushbutton alarm with 2m cable	Alarms	1 Unit
AKO-52250	Protection for detector / pushbutton	Accesories	12 Units

## Refrigerant gas detector alarms

Wide range of gas detectors and trapped-person alarms. Required installation devices in cold room stores, engine rooms and refrigerated work halls.

Sensor References	Sensor	Gases	Pre-Alarm	Alarma	Positive cold room	Negative cold room	Work hall/ Engine room	Gas detector CAMGas	Gas detector + puhsbutton COMBIAlarm
AKO-52211	A	R-134A, R-407C, R-410A, R-409A, R-407F, R-448A, R-449A, R-450A, R-452A, R-513A	500 ppm	1000 ppm	⊘	⊘	✓	AKO-52201	-
AKO-52212	B	R-404A, R-507A, R-22, R-408A	500 ppm	1000 ppm	⊘	⊘	✓	AKO-52202	-
AKO-52213	C	R-717 (NH3)	250 ppm	500 ppm	✓	✓	✓	AKO-52203	AKO-522034 AKO-522037
AKO-52214	U	R-134A, R-407C, R-410A, R-409-A, R-404A, R-22, R-422A, R-422D, R-408A, R-507A, R-407A, R-407F, R-424A, R-434A, R-442A, R-453A, R-448A, R-449A, R-450A, R-452A, R-513A	3500 ppm	7000 ppm	✓	✓	✓	AKO-52204	AKO-522044 AKO-522047
AKO-52215	D	R-744 (CO2)	3000 ppm	8000 ppm	✓	✓	✓	AKO-52205	AKO-522054



**Gas detectors  
CAMGas with sensors  
high precision  
for new gas  
with low GWP**



AKO-5220x

# CAMGas

## Permanent high-precision gas detector according to EN 378-3

### According to european regulation

The location of the detectors should be chosen depending on the coolant.

Coolant detectors will be designed to quickly notify either a dangerous concentration of coolant in the surroundings of a refrigeration system or contamination of the environment. The premises or areas where they should be located are defined in the following sections.

In each **specific machine room** the concentration of coolant should be controlled by a system with at least one sensor that activates an alarm located in premises occupied by people and that eventually isolates parts of the refrigeration system.

In **cold storage rooms and refrigerated premises for processes** in which in the event of coolant leaks the practical acceptable limits of coolant concentration may be exceeded, a leak detection system will be installed that activates an alarm and isolates part of the refrigeration system.



AKO-5220x

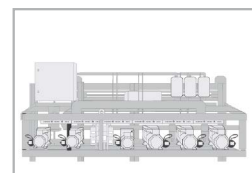
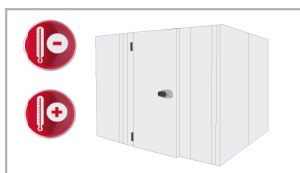
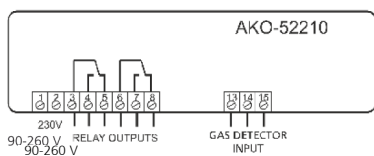


AKO-52205

**Permanent high-precision gas detector with an optical and acoustic alarm**  
That is compulsory to install in compressor rooms and cold room stores. Furthermore, the use of this device allows immediately detecting possible gas leaks with levels of 250 ppm (according to model) to minimize risks for people in occupied spaces and economic impact of the loss of refrigerated gas.

Application: machine rooms, cold room stores, sales rooms and refrigerated work halls.

- 2 levels of detection: Pre-alarm and Alarm
- Remote sensor. Maximum distance sensor 200 m
- 2 auxiliary relays to active remote alarms
- Work environment sensor -20/50 °C
- It is not suitable for classified areas as potentially explosives zones.
- CO2 ppm sensor display.
- Detection broken cable
- Power supply 90-260 V 50/60Hz
- IP65 protection for alarm
- The C, D and U sensors are suitable for inside cold room stores.
- Display PPM indicator in CO2 detector



### Detection of HFC's gas:

- U Sensor: R-134A, R-407C, R-410A, R-409A, R-404A, R-22, R-422A, R-422D, R-408A, R-507A, R-407A, R-407F, R-424A, R-434A, R-442A, R-453A, R-448A, R-449A, R-450A, R-452A, R-513A
- A Sensor: R-134A, R-407C, R-410A, R-409A, R-407F, R-448A, R-449A, R-450A, R-452A, R-513A
- B Sensor B: R-404A, R-507A, R-22, R-408A

Reference	Description	Family	Pack
AKO-52201	Gas detection alarm + A sensor, sensibility 500/1000 ppm	Alarms	1 Unit
AKO-52202	Gas detection alarm + B sensor, sensibility 500/1000 ppm	Alarms	1 Unit
AKO-52204	Gas detection alarm + U sensor, sensibility 3000/8000 ppm	Alarms	1 Unit
AKO-52210	Gas detection alarm (spare)	Alarms	1 Unit
AKO-52211	A sensor (spare)	Alarms	1 Unit
AKO-52212	B sensor (spare)	Alarms	1 Unit
AKO-52214	U sensor (spare)	Alarms	1 Unit

### Detection of natural origin gas (CO2 and NH3):

- D sensor: R-744 (CO2)
- C sensor: R-717 (NH3/ammonia)

Reference	Description	Family	Pack
AKO-52203	Gas detection alarm + C sensor, sensibility 250/500 ppm	Alarms	1 Unit
AKO-52205	Gas detection alarm + D sensor, sensibility 4000/9000 ppm	Alarms	1 Unit
AKO-52213	C sensor (spare)	Alarms	1 Unit
AKO-52215	D sensor (spare)	Alarms	1 Unit
AKO-52250	Protection for detector / pushbutton	Accessories	12 Units

## COMBIAlarm

Gas detector + trapped person alarm according to EN 378-1/3



**COMBIAlarm allows a fast and easy installation in the configuration of the device.**

The easiest and most efficient way to comply with current standards in your refrigerated facilities with the most complete and flexible device on the market. It is made up of a central unit with powerful acoustics and display with IP65 protection so that it can be installed in hostile environments. Up to 4 luminous emergency buttons that can be connected to be used as a single trapped person alarm or a combination of up to 2 gas leak sensors and 2 emergency buttons.

**Detect following gases:**

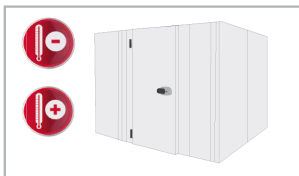
- U Sensor: R-134a, R-407C, R-410A, R-409A, R-404A, R-22, R-22A, R-22D, R-408A, R-507A, R-424A, R-434<sup>a</sup>, R-442A, R-453A, R-448A, R-449A, R-450A, R-452A, R-513A
- C Sensor: R-717 (NH<sub>3</sub>/ammonia)
- D Sensor: R-744 (CO<sub>2</sub>)

- Optical and acoustic alarm
- 2 detection levels: Pre-alarm and alarm
- 4 inputs (2 sensor + 2 alarm)
- 2 auxiliary relays to active remote alarms
- Up to 10h battery
- Remote sensor. Maximum distance 200m
- Working ambient temperature sensor -20/50 °C
- It is not suitable for classified areas as potentially explosives zones.
- Without battery
- Power supply 90-260 V 50/60Hz

Reference	Description	Family	Pack
AKO-522044	Gas detector + Trapped person alarm + U sensor + Pushbutton	Alarms	1 Unit
AKO-522034	Gas detector + Trapped person alarm + C sensor + Pushbutton	Alarms	1 Unit
AKO-522054	Gas detector + Trapped person alarm + D sensor + Pushbutton	Alarms	1 Unit
AKO-52214	U Sensor (square)	Alarms	1 Unit
AKO-52213	C Sensor (square)	Alarms	1 Unit
AKO-52215	D Sensor (square)	Alarms	1 Unit
AKO-52062	Light pushbutton with 2m cable (spare)	Alarms	1 Unit
AKO-522104	Gas detection + Trapped person alarm (spare)	Alarms	1 Unit
AKO-52250	Protection for detector / pushbutton	Accessories	12 Units

## CAMCombi

6 relays control, from -50 °C to +100 °C, with alarm for cold room store

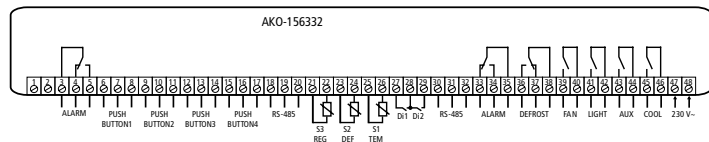


**Display with alarm and control board with built-in register**

This family of controllers with registers and alarm appears from the CAMCtrl, CAMRegis and CAMAlarm series. Display of information on graphic screen. Autonomous control board, with internal memory up to one year for registering the temperature. Person locked in alarm in room with output for 4 lights and autonomy of 48 hours. Identification of the alarm signal to know which pushbutton has triggered the alarm. Wall and panel mounting. Interior space for up to 2 contactors. Integrated RS485 communication. ModBus protocol.

Application Cold room stores

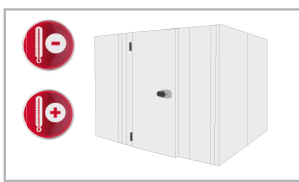
- Temp range -50 °C to +99.9 °C
- Resolution 0,1 °C
- Accuracy ±1 °C
- NTC probe
- Real time clock
- Box dimensions 346 x 230 x 111 mm
- Panel cut-out 330 x 214 mm
- Compressor relay SPST 16 A, 250 V
- Fan relay SPST 8 A, 250 V
- Defrost relay SPDT 16 A, 250 V
- Aux relay SPST 16 A, 250 V
- Light relay SPST 16 A, 250 V
- Alarm relay SPDT 8 A, 250 V
- 1 output relay for remote alarm signalling (GSM module)
- Light pushbutton to -50 °C
- Protection IP65
- Gas sensor -20 °C



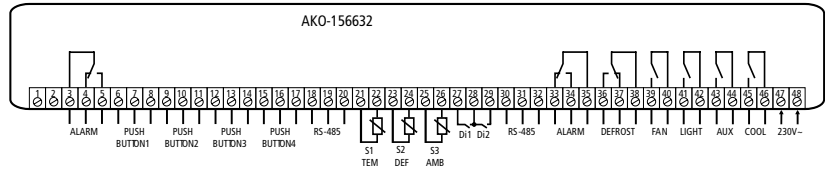
Reference	Description	Family	Pack
AKO-156332	CAMCtrl-6 + alarm, 230 V~ (1 light included)	CAMCTRL-Cold Rooms Control	1 Unit
AKO-52062	Luminous pushbutton for spare alarm with 2 m cable	Alarms	1 Unit
AKO-52250	Protection for detector / pushbutton	Accessories	12 Units

# CAMCombi

6 relays Split control, from -50 °C to +100 °C, with alarm for cold room store



- Temp range -50 °C to +100 °C
- Resolution 0,1 °C / Accuracy ±1 °C
- NTC probe
- Real time clock
- Box dimensions 346 x 230 x 90 mm
- Panel cut-out 330 x 214 mm
- Compressor relay SPST 16 A, 250 V
- Fan relay SPST 8 A, 250 V
- Defrost relay SPDT 16 A, 250 V
- Aux relay SPST 16 A, 250 V
- Light relay SPST 16 A, 250 V
- Alarm relay SPDT 8 A, 250 V
- 1 output relay for remote alarm signalling (GSM module)
- Light pushbutton to -50 °C
- Protection IP65



Reference	Description	Family	Pack
AKO-156632	CAMCtrl-6S + alarm, 230 V~ (1 light included)	CAMCTRL-Cold Rooms Control	1 Unit
AKO-15673	CAMCtrl-6S Split plate, 230 V~	CAMCTRL-Cold Rooms Control	1 Unit
AKO-52062	Light and pushbutton for spare alarm with 2 m cable	Alarms	1 Unit
AKO-52250	Protection for detector / pushbutton	Accessories	12 Units

# AKOPRO

Electronic panels





# PROPlus BASIC

## Electronic panels for cold room stores

PROPlus BASIC is the comprehensive solution in one device, for managing cold rooms, both above and below freezing, in conjunction with: Standard condensing units, fully enclosed condensation, as a service panel in decentralized systems.

**General features:**

- Temperature range: -50.0 °C to +99.9 °C
- 2 digital inputs: configurable
- Alarm signals: buzzer (acoustic alarm) and relay
- IP65 protection
- Integrated communication: RS485

**Advantages:**

- Easy access to thermo-magnetic circuit breaker, thanks to its frontal arrangement
- High degree of protection IP65 for installing in humid environments
- Comprehensive functionality for managing cold room with fully enclosed condensing units
- Easy connection in distributed control facilities, ideal for protecting and monitoring in facilities that have suffered expansion of services.
- Wizard to start up. Selecting: 1- Service Panel (evaporator control), 2- Control panel for condensing units and the evaporator
- The wizard sets up the device to facilitate programming
- User-friendly menus with common parameters



AKO-15645



AKO-15646



AKO-15590



AKO-15590-EVC

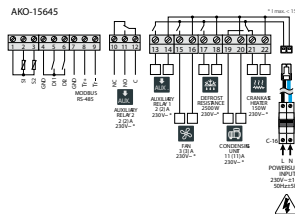
# PROPlus BASIC

## For condensing units and evaporators with single & three-phase resistors



Electronic panel with 16 A thermo-magnetic circuit breaker, for controlling cold rooms. Alarm trapped person function for positive cold rooms (without battery) in AKO-15646 using the pushbutton AKO-520622 (1 included).

- Compressor/liquid solenoid
- Configurable relays for solenoid, alarm and light
- Configuration type AKO control
- 5 relays (comp, fan, defrost, aux1, aux2)
- Gas collection (pump-down)
- Up to 2 probes



Reference	Condensing Unit		Evaporator		Defrost		Light	Trapped Person Alarm	Power supply	Family	Pack
	230 V/I	230 V/II	230 V/I	400 V/III	230 V/I	400 V/III					
AKO-15645	11 A	4 A	-	-	2.500 W	-	250 W	-	230 V/I	PROPlus BASIC	1 Unit
AKO-15646	11 A	4 A	-	-	2.500 W	-	250 W	SI	230 V/I	PROPlus BASIC	1 Unit
AKO-15648	9 A	4 A	-	-	-	5.500 W	250 W	-	400 V/III	PROPlus BASIC	1 Unit
AKO-15697	-	5 A	-	-	-	10.200 W	250 W	-	400 V/III	PROPlus BASIC	1 Unit

## PROPlus 3PH BASIC

For three-phase condensing units and evaporators with three-phase resistors



Electronic panel with thermo-magnetic circuit breaker up to 25 A, for controlling cold rooms.

Easy installation thanks to its new connecting strip.

- Access for connecting the securities: thermistors, pressure switches, resistor thermostats
- Management up to 2 condensing fans (first: direct, second by PA)
- Control of cold room's light by door contact
- Stop fans and solenoid to open the door

Reference	Condensing Unit		Evaporator		Defrost	Light	Power supply	Family	Pack
	Compressor	Compressor							
	400 V/III	230 V/I	230 V/I	400 V/III	400 V/III				
AKO-15690	2,5 - 4 A	3 A	4 A	-	7.000 W	250 W	400 V/III	PROPlus 3PH BASIC	1 Unit
AKO-15691	4 - 6,3 A	3 A	4 A	-	7.000 W	250 W	400 V/III	PROPlus 3PH BASIC	1 Unit
AKO-15692	6,3 - 10 A	3 A	4 A	-	10.200 W	250 W	400 V/III	PROPlus 3PH BASIC	1 Unit
AKO-15693	10 - 12 A	3 A	5 A	-	10.200 W	250 W	400 V/III	PROPlus 3PH BASIC	1 Unit
AKO-15699	-	-	-	1,6 - 2,5 A	10.200 W	250 W	400 V/III	PROPlus 3PH BASIC	1 Unit
AKO-15699-1				6,3 - 10A	20.000 W	250 W	400 V/III	PROPlus 3PH BASIC	1 Unit

## PROPlus 3PH BASIC + EVC

For three-phase condensing units and evaporators with resistors



Electronic panel, with thermo-magnetic circuit breaker up to 25 A, for controlling cold rooms.

- Single-phase and three-phase fans (depending on model)
- Access for connecting the securities: thermistors, pressure switches, resistor thermostats (except service panels)
- Included AKO controller to the stepper electronic expansion valve.

Reference	Condensing Unit			Fans		Defrost	Light	Family	Pack
	Compressor	Condenser							
	400 V-III	230 V-I	400 V-III	230 V-I	400 V-III	400 V-III	230 V-I		
AKO-15690-EVC	2,5 - 4 A	3 A		4 A		7000 W	250 W	PROPlus 3PH BASIC	1 unit
AKO-15691-EVC	4 - 6,3 A	3 A		4 A		7000 W	250 W	PROPlus 3PH BASIC	1 unit
AKO-15692-EVC	6,3 - 10 A	3 A		4 A		7000 W	250 W	PROPlus 3PH BASIC	1 unit
AKO-15693-EVC	10 - 12 A	3 A		4 A		10200 W	250 W	PROPlus 3PH BASIC	1 unit
AKO-15697-EVC				5 A		10200 W	250 W	PROPlus 3PH BASIC	1 unit
AKO-15699-EVC					1,6 - 2,5 A	10200 W	250 W	PROPlus 3PH BASIC	1 unit

# PROPlus

## Electronic panels for cold rooms

PROPlus is the comprehensive solution in one device for managing cold rooms, both above and below freezing, in conjunction with: Standard condensing units, fully enclosed condensation, as a service panel in decentralized systems.

### General features:

- Temperature range: -50.0 °C to +99.9 °C
- 2 digital inputs: configurable
- Alarm signals: buzzer (acoustic alarm) and relay
- IP65 protection
- Integrated communication: RS485
- Graphic LCD screen
- RTC:Real Time Clock
- Internal record for temperatures storage
- According to EN-12830

### Advantages:

- Easy access to thermo-magnetic circuit breaker, thanks to its frontal arrangement.
- High degree of protection IP65 for installing in humid environments
- Comprehensive functionality for managing cold room with fully enclosed condensing units.
- Easy connection in distributed control facilities, ideal for protecting and monitoring in facilities that they have suffered expansion of services
- Multi-language graphic LCD screen, user-friendly menus and help texts to facilitate programming, without user manual.

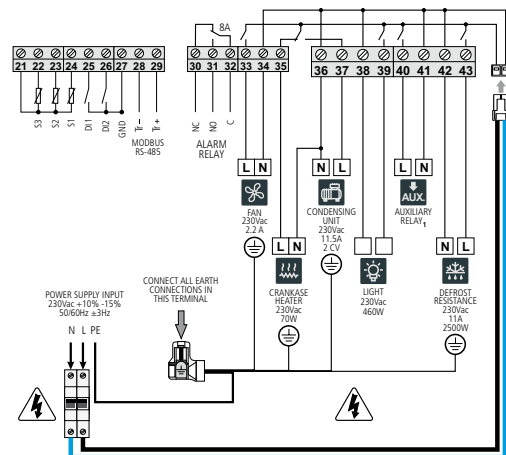
# PROPlus

## For condensing units and evaporators with single and three-phase resistors



Electronic panel with thermo-magnetic circuit breaker up to 16 A, for controlling cold rooms. AKO-15643 reference also has the exclusive thermo-magnetic circuit breaker to defrost resistances.

- Compressor/liquid solenoid
- Output: 6 relays (comp, aux, light, defrost, fan, alarm)
- Auxiliary relay (solenoid, defrost, 2 evaporators)
- Up to 3 NTC probes (included 1)



Reference	Condensing Unit Description AC1 (AC3)	Fans Eva.		Elec Defrost		Power supply	Family	Pack
		230 V/I Res. (Induc.)	230 V/I	230V/I	400 V/III			
AKO-15640	PROPlus - 1F	20A (11,5 A) 8A	(2,2 A)	2.500 W		230 V/I (50/60 Hz)	PROPlus	1Unit
AKO-15643	PROPlus - 1F	20A (11,5 A) 8A	(2,2 A)		5.500 W	230 V/I (50/60 Hz)	PROPlus	1Unit

## PROPlus 3PH

Electrical and electronic panels for three-phase condensing units and evaporators



Electronic panel with thermo-magnetic circuit breaker up to 16 A, for controlling cold rooms. Easy installation thanks to its new connecting strip.

- Compressor/liquid solenoid
- Single-phase and three-phase fans (depending on model)
- Air or electrical defrost
- Access for connecting the securities: thermistors, pressure switches, resistor thermostats (except service panels)
- Management up to 2 condensing fans (first: direct)
- Control of cold room's light by door contact

Condensing units				Evaporator			Light	Family	Pack
Reference	Compressor	Condensing		Fans		Defrost			
	400 V-III	230 V-I	400 V-III	230 V-I	400 V-III	400 V-III	230 V-I		
AKO-15650	2,5 - 4 A	3 A		3 A		7000 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15651	4 - 6,3 A	3 A		3 A		7000 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15651-3			0,63 - 1 A						
AKO-15652	6,3-10 A	3 A		3 A		10200 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15652-3			1-1,6 A						
AKO-15653	10-12 A	3 A		3 A		10200 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15653-3			1-1,6 A						
AKO-15658					1-1,6 A	7000 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15659					1,6-2,5 A	10200 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15680	2,5 - 4 A		3 A	3 A		7000 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15681	4 - 6,3 A		3 A	3 A		7000 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15682	6,3 - 10 A		3 A	3 A		10200 W	460 W	PROPLUS-3 Phase	1 Unit
AKO-15683	10 - 12 A		3 A	3 A		10200 W	460 W	PROPLUS-3 Phase	1 Unit

# PROCool

## Universal Electronic Panels up to 25A



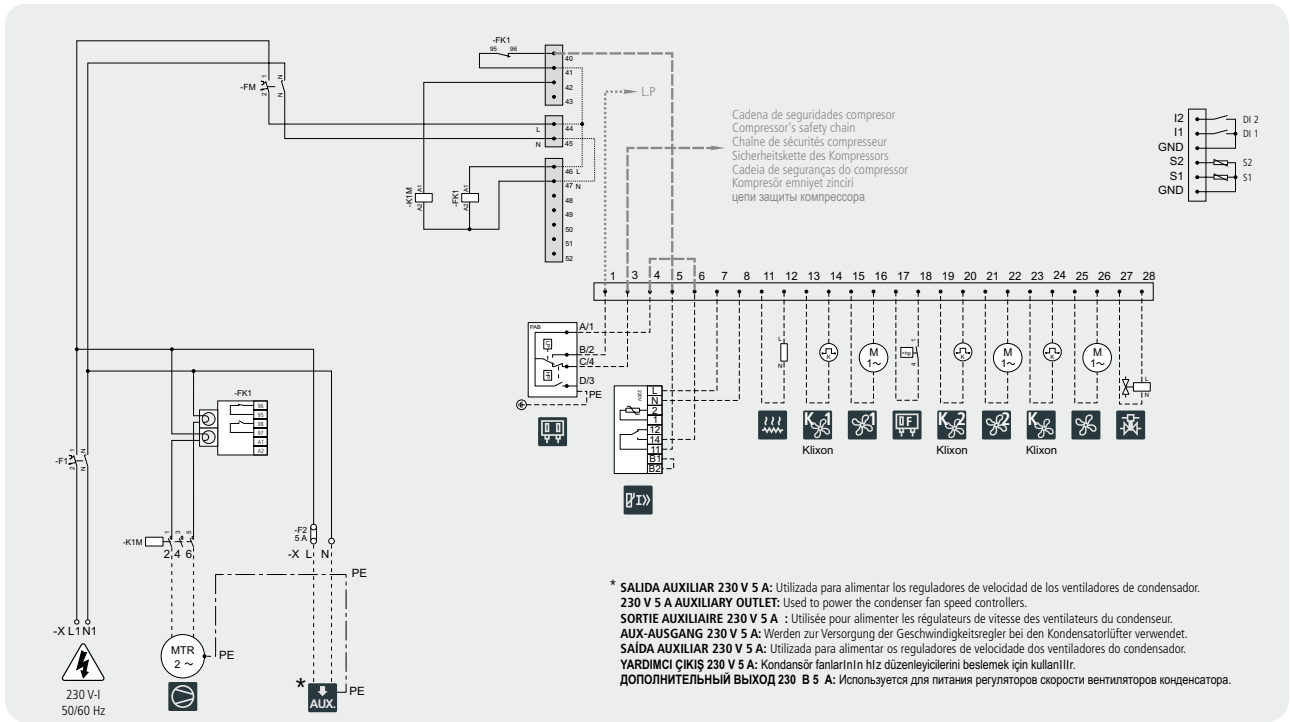
Electronic Panels for Single and Three Phase Condensing Units with Electrical Protection that is adjustable between 3 and 25A. Versions for single and three phase evaporator fans and/or single and three phase condenser fans, with or without single and three phase defrosting.

There are also two versions solely for control of three phase condensing units with single and three phase fans

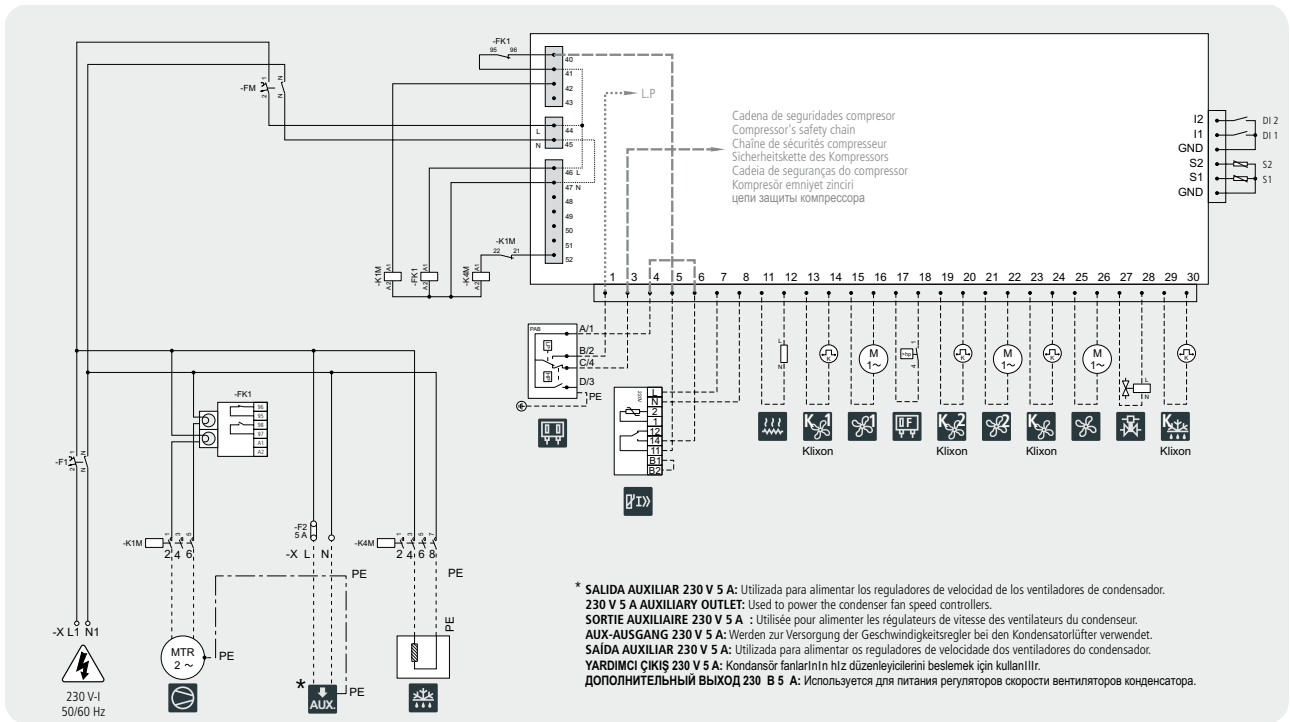
Applications: Positive and negative cold room stores up to 10CV

- Electrical Protection adjustable between 3 and 25A in a single reference
- Quick and safe wiring to Electronic Board via clamping terminals
- Electronic Control with Advanced Functionality, including combined management of Pump Down and Defrost
- Large sized user interface, with Hotkeys, large screen and synoptic of the installation on the front door
- Light IP65 enclosure suitable for industrial use
- Electrical elements and protections from top globally recognised brands and with global replacement on the market
- Configurable digital inputs for special functions (door contact, stop for fans and solenoid in door opening, remote defrost etc.)
- 5 Security systems to protect all the elements in the facility
- Large screen for maximum visibility of temperature over at long distance

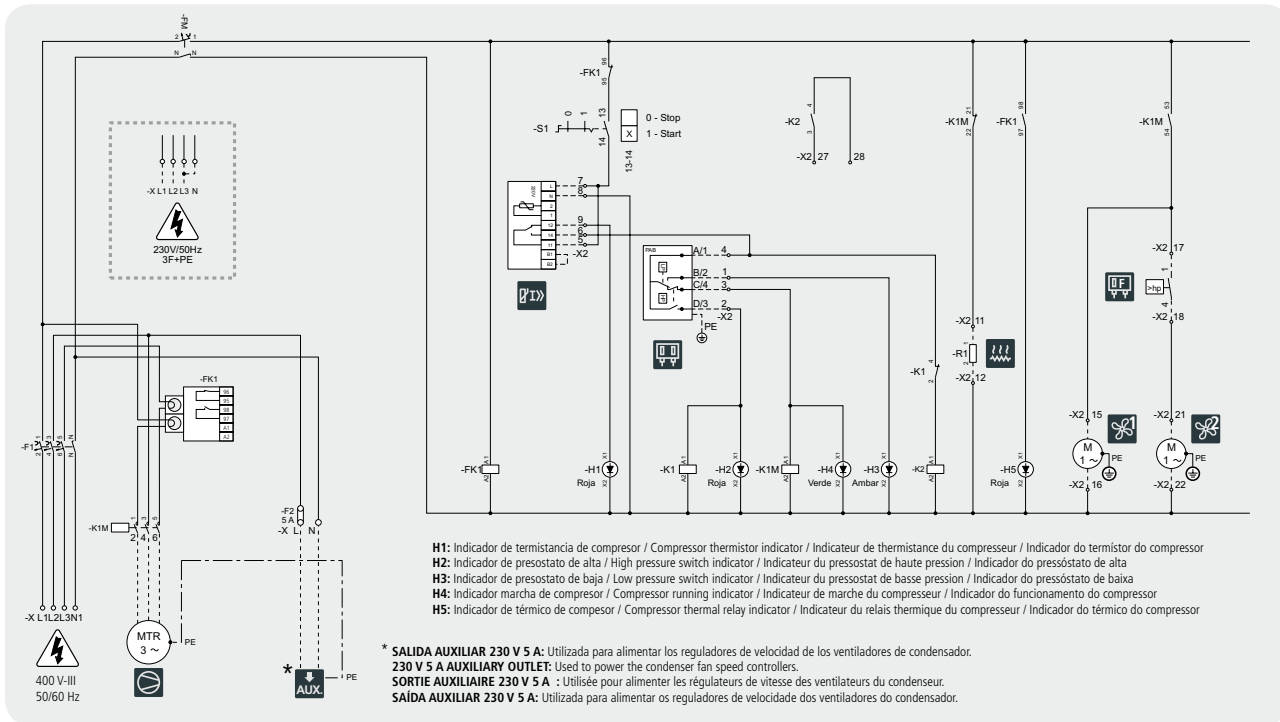
Reference AKO	Condensing Unit				Evaporator				Family	Packaging
	Compressor		Condenser		Fans		Defrost resistors			
	230 V-I	400 V-III	230 V-I	400 V-III	230 V-I	400 V-III	230 V-I	400 V-III		
AKO-17520	3 - 25 A	-	3 A	-	4 A	-	-	-	PROCool	1 Unit
AKO-17521	3 - 25 A	-	3 A	-	4 A	-	4,400 W	-	PROCool	1 Unit
AKO-17630	-	3 - 25 A	3 A	-	-	-	-	-	PROCool	1 Unit
AKO-17631	-	3 - 25 A	-	0.3 - 3 A	-	-	-	-	PROCool	1 Unit
AKO-17632	-	3 - 25 A	3 A	-	4 A	-	-	-	PROCool	1 Unit
AKO-17633	-	3 - 25 A	-	0.3 - 3 A	4 A	-	-	-	PROCool	1 Unit
AKO-17634	-	3 - 25 A	-	0.3 - 3 A	-	0.3 - 6 A	-	-	PROCool	1 Unit
AKO-17635	-	3 - 25 A	3 A	-	4 A	-	-	13,500 W	PROCool	1 Unit
AKO-17636	-	3 - 25 A	-	0.3 - 3 A	4 A	-	-	13,500 W	PROCool	1 Unit
AKO-17637	-	3 - 25 A	-	0.3 - 3 A	-	0.3 - 6 A	-	13,500 W	PROCool	1 Unit



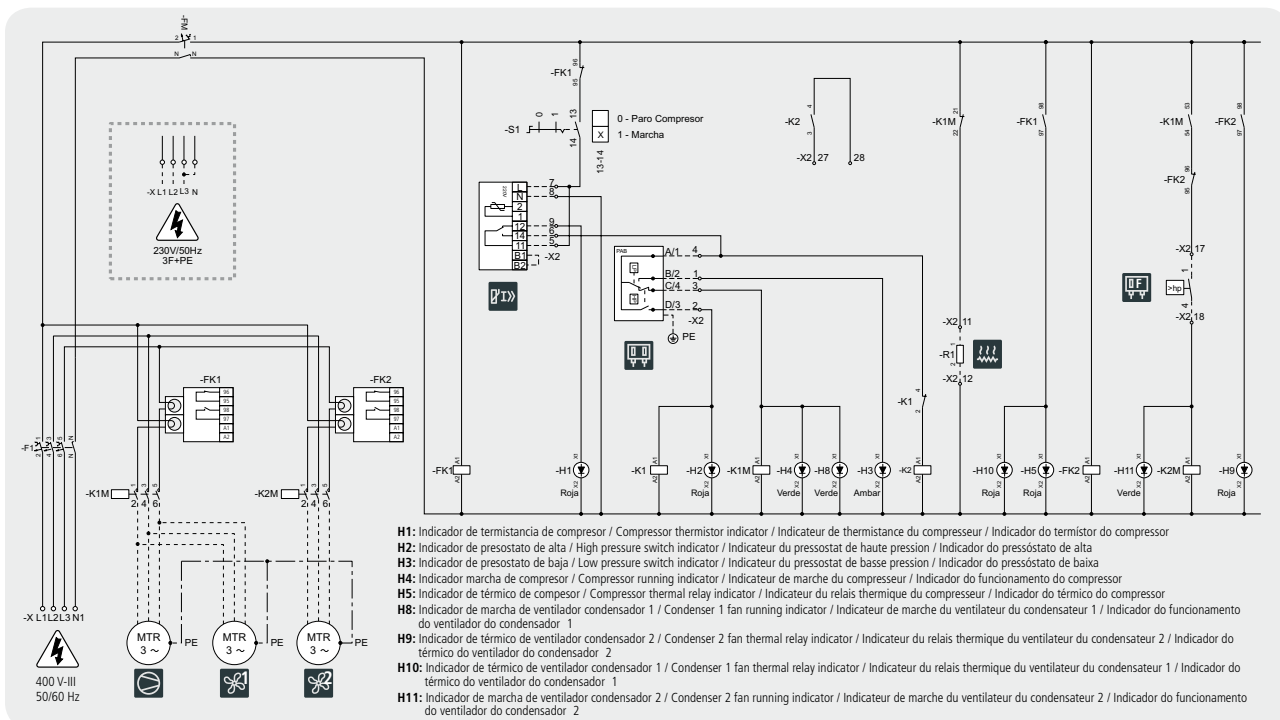
AKO-17520



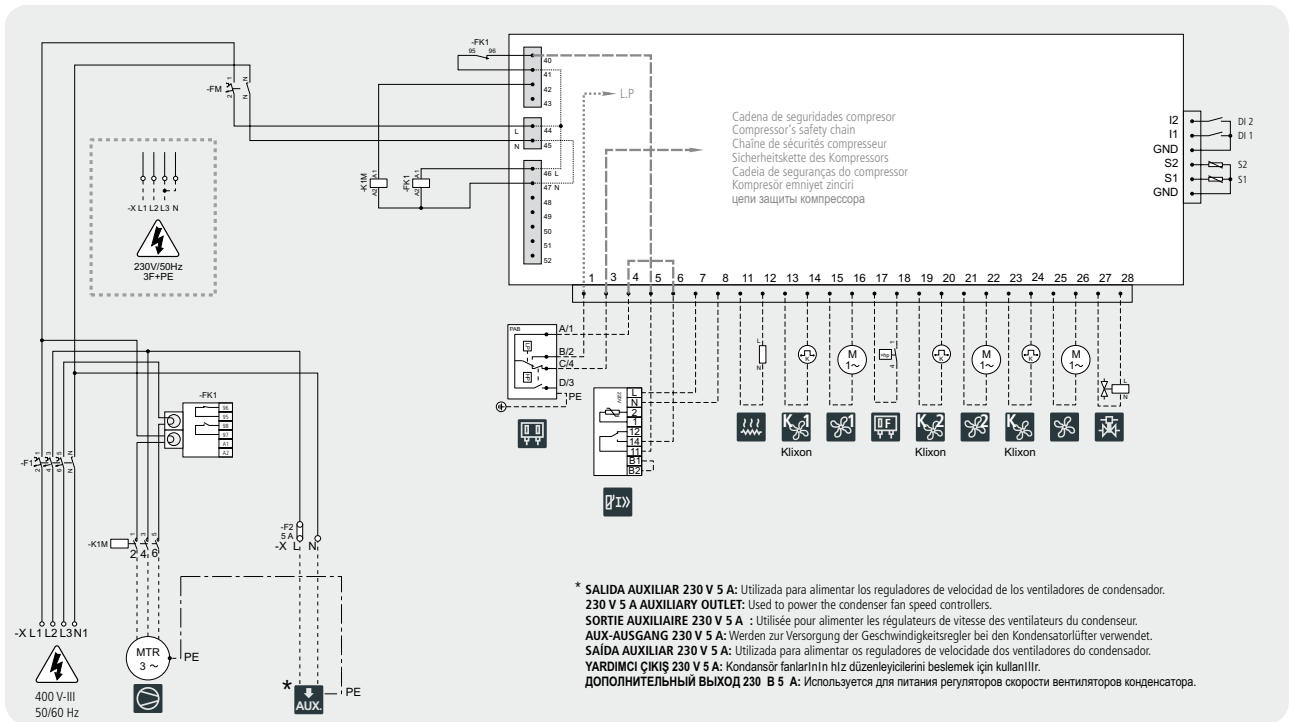
AKO-17521



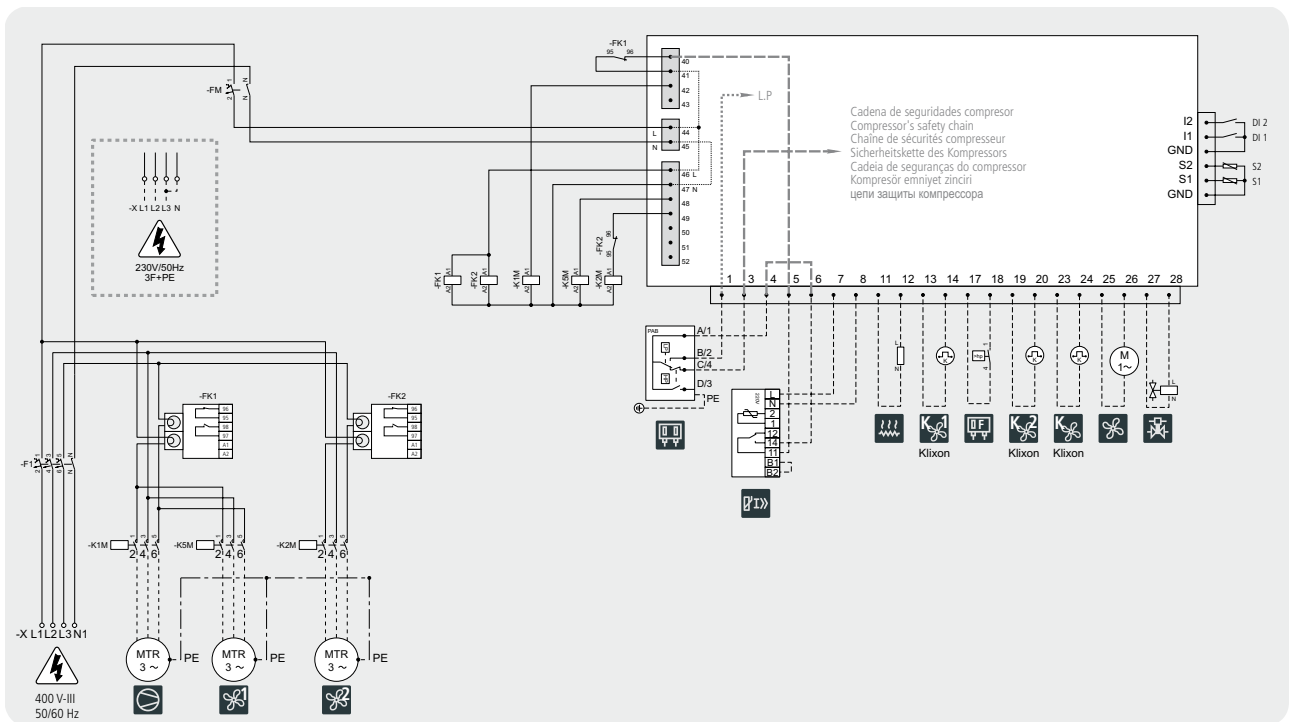
AKO-17630



AKO-17631

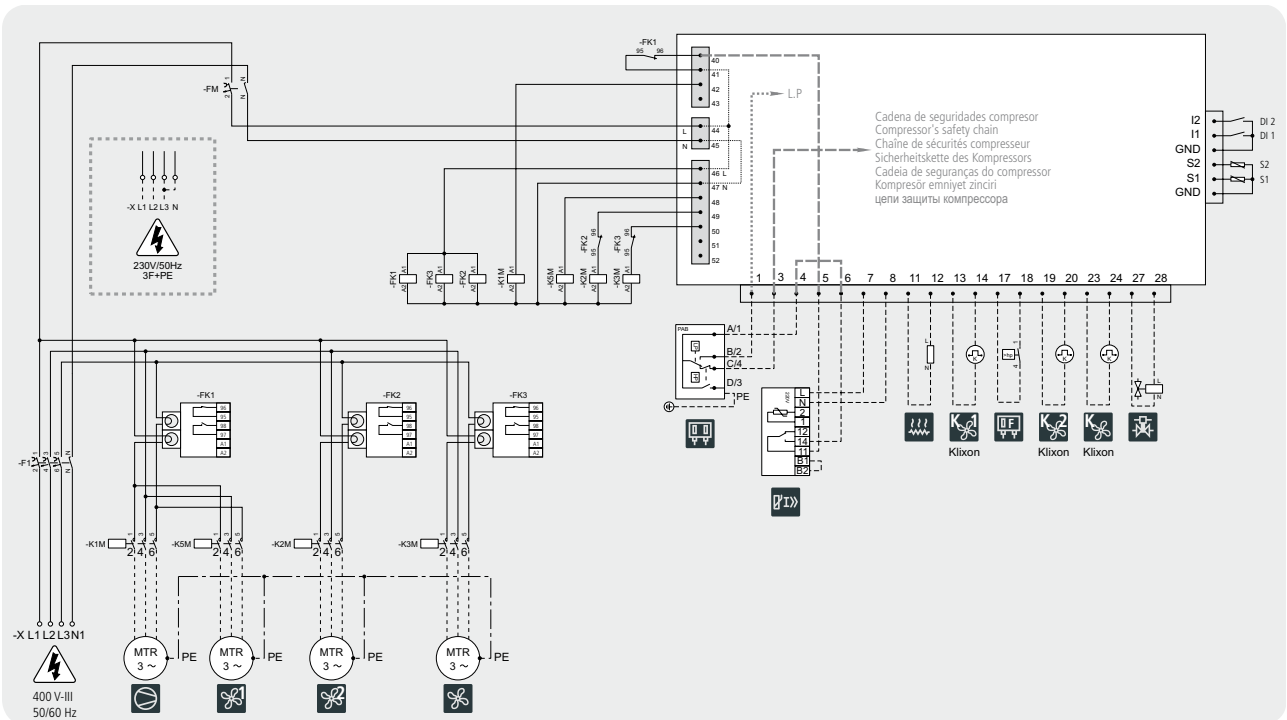


AKO-17632

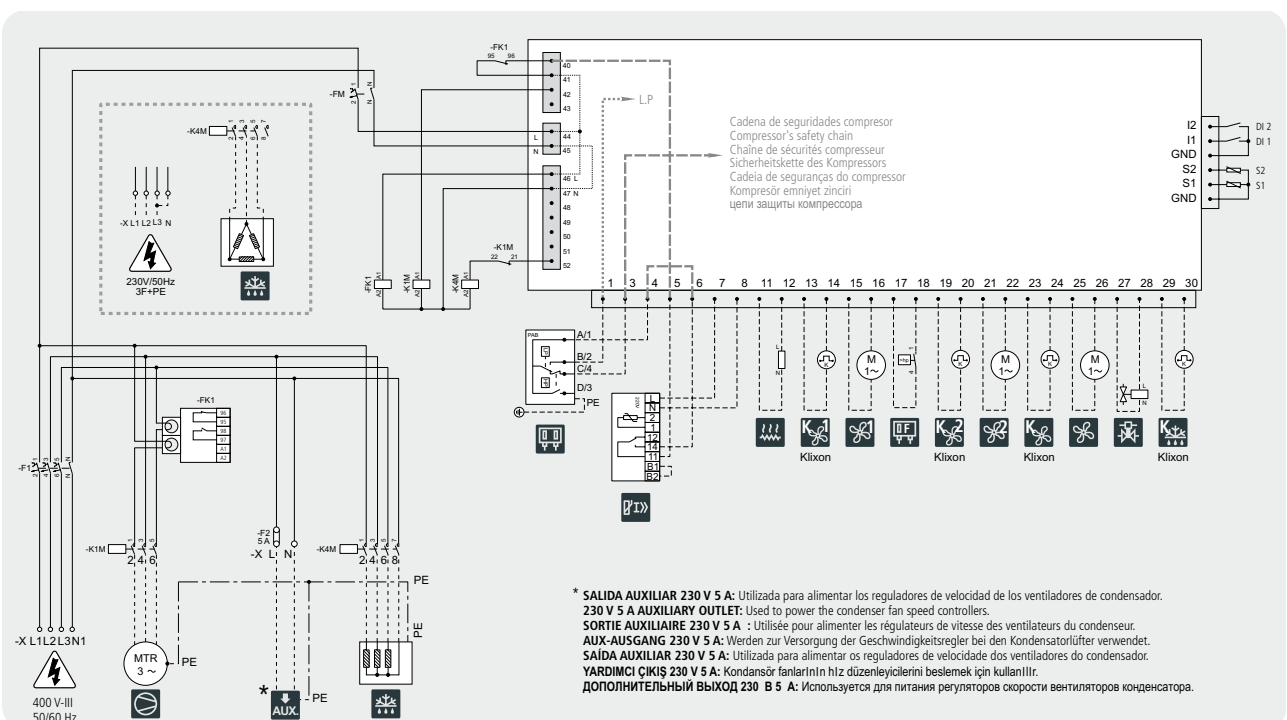


AKO-17633

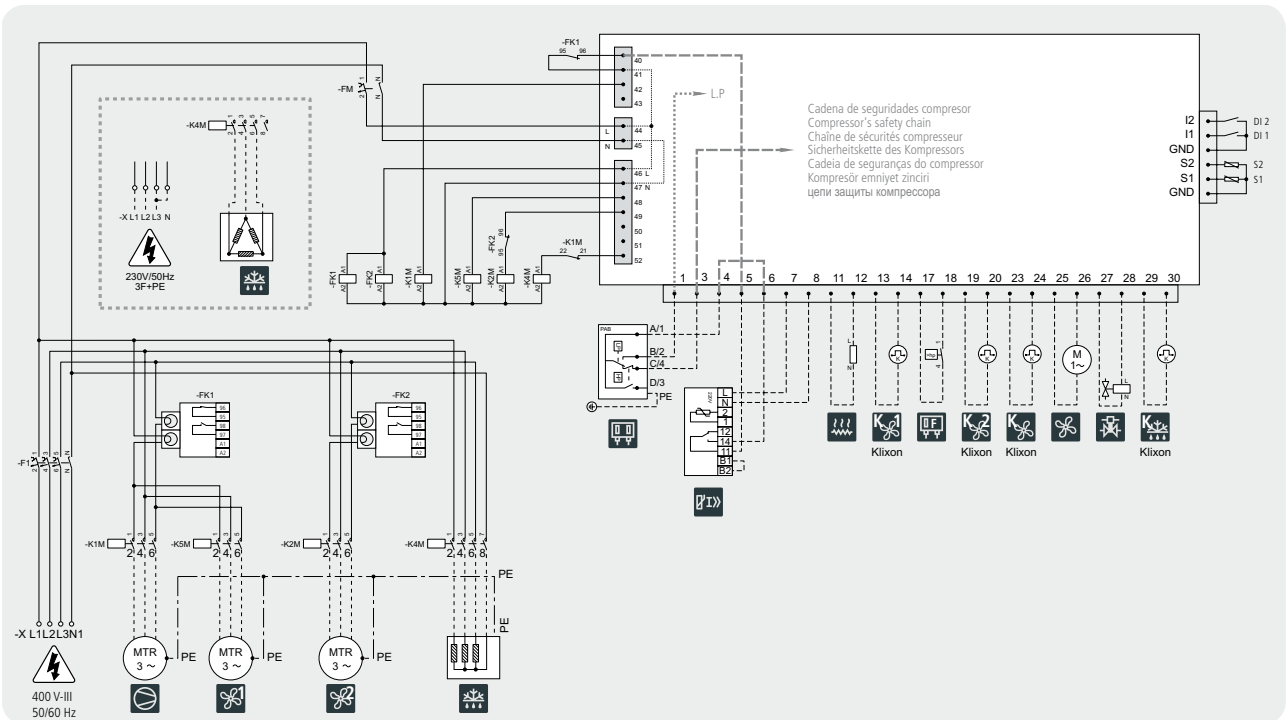




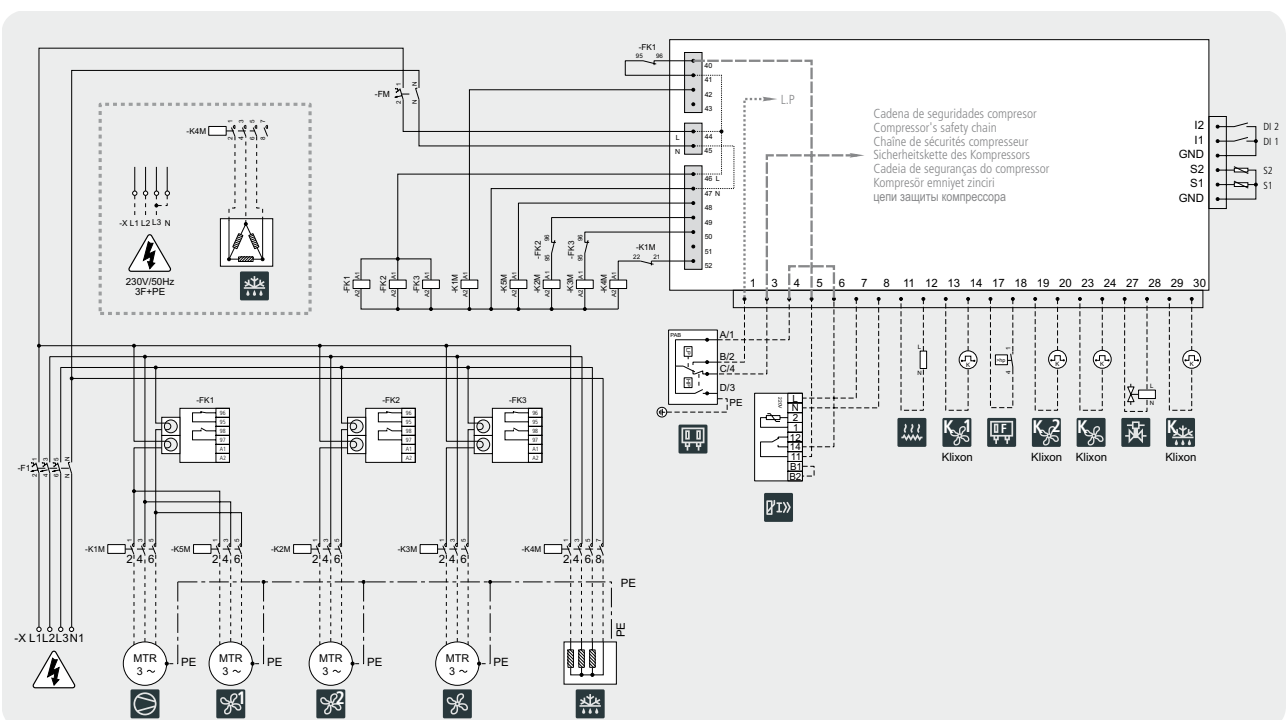
AKO-17634



AKO-17635



AKO-17636



AKO-17637

**AKOCABLE**  
Heating cable solutions



## Heating cable quick guide

Installation, checking and connection to power supplies, and coordination should be carried out by qualified staff. AKO recommends selecting heating cables according to their application.

### Applications in Refrigeration

TECHNOLOGIES	Parallel cable constant wattage			Parallel cable self-regulating	Serie cable
Application/finishing	Fluoropolymer Outer Jacket	Metal Braid	Silicone Insulation / PVC	Polyolefin Outer Jacket	Silicone Insulation
Avoid ice on drainpipes		AKO-52341	AKO-5234, AKO-52342, AKO-52344, AKO-52346, AKO-712545	AKO-71214T, AKO-1221, AKO-71218T, AKO-7121xP	AKO-7137x, AKO-7138x
Frames of cold rooms		AKO-52341, AKO-5237	AKO-5234, AKO-52342, AKO-52344, AKO-52346		
Cupboard frames and glass cabinets		AKO-52341, AKO-5237	AKO-5234, AKO-52342, AKO-52344, AKO-52346		
Cold room entrance	AKO-70130				
Cold room floors			AKO-5231		

TECHNOLOGIES	Heating resistances
Refrigeration compressors	AKO-718x

### Applications in Construction

TECHNOLOGIES	Parallel cable constant wattage			Parallel cable self-regulating
Application/finishing	Fluoropolymer Outer Jacket	Metal Braid	Silicone Insulation / PVC	Polyolefin Outer Jacket
Avoid ice on drainpipes		AKO-710xx		AKO71214T, AKO-1221, AKO7128T, AKO-7121xP.
Avoiding ice ramps, streets ...	AKO-70130, AKO-70140			
Maintain the flow of water on tiled roofs and canals	AKO-70130			
Underfloor heating			AKO-1212	
Hot water supply (HWS)		AKO-710xx		

### Applications in Industry

TECHNOLOGIES	T° maintain (°C)	Parallel cable constant wattage (Ex)	Parallel cable self-regulating (Ex)	Serie cable
Application/finishing	CABLE	Fluoropolymer Outer Jacket	Fluoropolymer Covering / TPC	Stainless steel sheath Quartz fiber insulation
Maintain the temperature of processes in piping, tanks, hoppers, and associated equipment	Up to 65	AKO-701xx, AKO-711xx	AKO-7121x	
	Up to 110		AKO-7124x	
	Up to 120		AKO-7125x	
	Up to 155		AKO-7126x	
	Up to 190	AKO-711xx	AKO-7126x	
	Up to 200		AKO-7126x	
	Up to 530			AKO-7130xA
Up to 800			AKO-7132x	

Maintain the temperature in tanks and drums	Temperature	Heaters
	Up to 185 °C	Heating panels: AKO-71515, AKO-71535
	< 100 °C	Heating bands with thermostat: AKO-8003xT
	< 100 °C	Heater Jacket: AKO-80041
	< 100 °C	Base and Ring heater: AKO-718510, AKO-718520, AKO-718720

## PARALLEL HEATING CABLE

### Cut-to-length on site without its linear power varying

The cable provides a constant wattage regardless of its length. This enables it to be cut made-to-measure on site at the time it is installed. Finishing of both ends of the cable for power supply is done using the appropriate kit.



## SERIES CABLE

### Finished in factory. The heating cable can't be cut on site.

The cable offers power for a determined length and therefore cannot be cut. It has 1 or 2 cold ends for its power supply.



## Constant wattage heating cable

PVC insulation (conductors 2 x 1,5 mm<sup>2</sup>)



**Exposure temperature up to 70 °C with PVC insulation.**  
 AKO-5231 heater wire designed to prevent soil cracked cold storage, installed under the insulation.  
 AKO-1212 Heating cable for floor heating, installed above the insulation.

Application: Refrigeration and construction

- Copper conductor at 2 x 1,5 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outler dimensions 9 x 6 mm.
- Minimum bend radius at 20 mm. to -15 °C
- Maximum exposure temperature (disconnected) 70 °C
- Distance between contacts: 1000 mm.



Reference	Description	Family	Pack
AKO-5231	Heating cable 10 W/m at 230 V, PVC insulation	Constant Wattage	100m .(A)
AKO-1212	Heating cable 20 W/m at 230 V, PVC insulation	Constant Wattage	100m. (A)
AKO-12192	Splice + end kit	Accessories	1 Unit
AKO-12193	Connection M25+ end kit	Accessories	1 Unit
AKO-5238	Termination kit	Accessories	25 Units

(A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated.

## Constant wattage heating cable

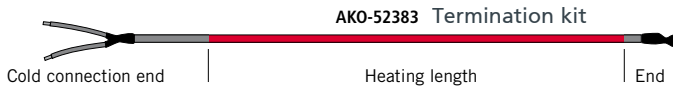
Silicone insulation (conductors 2 x 0,75 mm<sup>2</sup>)



**Exposure temperature up to 180 °C with silicone insulation**  
 Heating cable is used in industrial or commercial refrigeration installations to avoid ice in the drain pipes, condensation on the surface, and in applications on metal surfaces. It can be cut to size.

Application: Industrial and commercial refrigeration

- Copper conductor at 2 x 1,5 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outler dimensions 8 x 6 mm.
- Minimum bend radius at 10 mm. to -40 °C
- Maximum exposure temperature (disconnected) 180 °C
- Distance between contacts: 595 mm.



Reference	Description	Family	Pack
AKO-5234	Heating cable 30 W/m at 230 V, silicone insulation	Constant Wattage	150m.(A)
AKO-52342	Heating cable 30 W/m at 120 V, silicone insulation	Constant Wattage	150m.(A)
AKO-52344	Heating cable 40 W/m at 230 V, silicone insulation	Constant Wattage	150m.(A)
AKO-52346	Heating cable 65 W/m at 230 V, silicone insulation	Constant Wattage	75m.(A)
AKO-52383	Kit for sealing connection termination	Accessories	25 Units

(A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated.

## Constant wattage heating cable

Silicone insulation (conductors 2 x 1,5 mm<sup>2</sup>)



**Exposure temperature up to 180 °C with silicone insulation**  
 Heating cable is used in industrial or commercial refrigeration installations to avoid ice in the drain pipes and condensation on the surface. It can be cut to size.

Application: Refrigeration and construction

- Copper conductor at 2 x 1,5 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outler dimensions 9 x 6 mm.
- Minimum bend radius at 20 mm. to -40 °C
- Maximum exposure temperature (disconnected) 180 °C
- Distance between contacts: 500 mm.



Reference	Description	Family	Pack
AKO-712545	Heating cable 50 W/m at 230 V, silicone insulation	Constant Wattage	100m.(A)
AKO-12192	Splice + end kit	Accessories	1 Unit
AKO-12193	Connection M25 + end kit	Accessories	1 Unit
AKO-5238	Termination kit	Accessories	25 Units

(A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated.

## Constant wattage heating cable

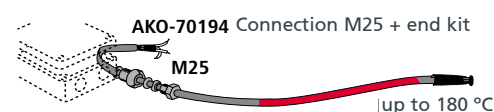
Silicone insulation + metal braid (conductors 2 x 0,75 mm<sup>2</sup>)



**Exposure temperature up to 180 °C with metal protection braid.**

Heating cable is used in industrial or commercial refrigeration installations to avoid ice in the drain pipes, door frames and condensation on the surface. A range with braid, giving electrical protection by using it as an earth conductor. It can be cut to size.

Application: Industrial and commercial refrigeration



- Copper conductor at 2 x 0,75 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outer dimensions 9 x 7 mm.
- Minimum bend radius at 10 mm. to -40 °C
- Maximum exposure temperature (disconnected) 70 °C / 180 °C (\*)
- Distance between contacts: 595 mm.

(\*): Using kit AKO-70194



Reference	Description	Family	Pack
AKO-52341	Heating cable 30 W/m at 230 V, insulation + metal braid	Constant Wattage	150 m.(A)
AKO-52383	Termination kit	Accessories	25 Units
AKO-70194	Connection M25 + end kit	Accessories	5 Units

(A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated.

## Constant wattage heating cable

Silicone insulation + metal braid (conductors 2 x 1,5 mm<sup>2</sup>)



**Exposure temperature up to 180 °C with metal protection braid**

Heating cable is used in the construction facilities to avoid ice in pipes and sanitary hot water. A range with braid, giving electrical protection by using it as an earth conductor. It can be cut to size.

Application: Construction

- Copper conductor at 2 x 1,5 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outer dimensions: 9,4 x 6,9 mm
- Minimum bend radius at 20 mm a -40 °C
- Maximum operating temp. (connected) up to 165 °C
- Maximum exposure temp. (disconnected) 180 °C
- Distance between contacts: 1000 mm / 500 mm (for AKO-71025, AKO-71035, AKO-71050)



Reference	Description	Family	Pack
AKO-71010	Heating cable 10 W/m at 230 V, up to 165 °C	Constant Wattage	100 m.(A)
AKO-71015	Heating cable 15 W/m at 230 V, up to 150 °C	Constant Wattage	100 m.(A)
AKO-71020	Heating cable 20 W/m at 230 V, up to 130 °C	Constant Wattage	100 m (A)
AKO-71025	Heating cable 25 W/m at 230 V, up to 115 °C	Constant Wattage	100 m.(A)
AKO-71030	Heating cable 30 W/m at 230 V, up to 95 °C	Constant wattage	100 m (A)
AKO-71035	Heating cable 35 W/m at 230 V, up to 75 °C	Constant Wattage	100 m.(A)
AKO-71050	Heating cable 50 W/m at 230 V, up to 25 °C	Constant Wattage	100 m.(A)
AKO-71092	Connection M25 + end kit	Accessories	1 Unit

A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated.

## Constant wattage heating cable

Silicone insulation + metal braid (power supply 24/48 V)



### 24/48V power supply with metal protection braid

Heating cable is used in industrial or commercial refrigeration installations to avoid ice in the door frames and condensation on the surface. A range with braid, giving electrical protection by using it as an earth conductor. It can be cut to size.

Application: Industrial and commercial refrigeration

- Copper conductor at 2 x 1,5 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outler dimensions 9,4 x 6,4 mm.
- Minimum bend radius at 20 mm. to -40 °C
- Maximum exposure temperature (disconnected) 180 °C
- Distance between contacts: 200 mm.



AKO-71092 Connection M25+ end kit

Reference	Description	Family	Pack
AKO-5237*	Heating cable 40 W/m to 48 V, (10 W/m to 24 V)	Constant Wattage	100 m. (A)
AKO-71092	Connection M25 + end kit	Accessories	1 Unit

(A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated. \*Available on request

## Constant wattage heating cable

Fluoropolymer covering (conductors 2 x 0.75 mm<sup>2</sup>)



### Exposure temperature up to 180 °C with fluoropolymer covering

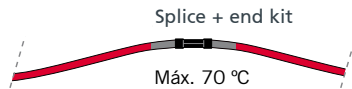
These are used to maintain the temperature and protection against ice in pipes, on roofs, terraces, ramps, stairs, drains, etc. Maintaining process temperatures up to 155 °C and suitable for corrosive atmospheres and with risk of explosion. They can be cut to size.

Application: Refrigeration, Construction and Industry

- Copper conductor at 2 x 0,75 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outler dimensions 9,4 x 6,5 mm.
- Minimum bend radius at 20 mm. to -40 °C
- Maximum operating temperature (connected) up to 155 °C
- Maximum exposure temperature (disconnected) 180 °C
- Distance between contacts: 1000 mm.



AKO-70194 Connection M25 + end kit



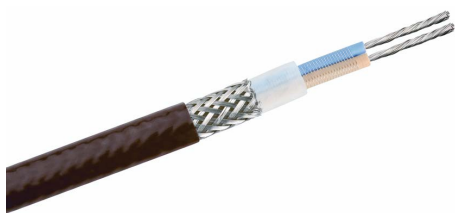
Reference	Description	Family	Pack
AKO-70115	Heating cable 15 W/m a 230 V, up to 155 °C	Constant Wattage	100m.(A)
AKO-70130	Heating cable 30 W/m a 230 V, up to 115 °C	Constant Wattage	100m.(A)
AKO-70140	Heating cable 40 W/m a 230 V, up to 84 °C	Constant Wattage	50m.(A)
AKO-70192	Splice kit + end, for cables embedded in concrete	Accessories	10Units (B)
AKO-70194	Connection M25 + end kit	Accessories	5Units

A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated. (B) Minimum, indivisible pack units.



## Constant wattage heating cable

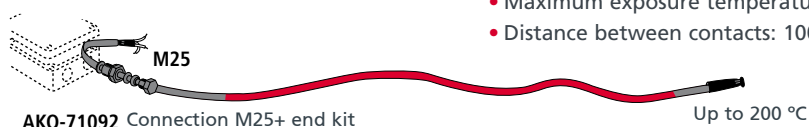
Fluoropolymer covering (conductors 2 x 1,5 mm<sup>2</sup>)



**Exposure temperature up to 200 °C with fluoropolymer cover**  
 Heating cable is used to maintain the temperature up to 190 °C and protection against ice in pipes, tanks, etc. Suitable for corrosive atmospheres and with risk of explosion. It can be cut to size.

Application: Industry

- Copper conductor at 2 x 1,5 mm<sup>2</sup>
- Heating conductor element: Ni - Cr
- Nominal outler dimensions 10,3 x 7,4 mm.
- Minimum bend radius at 20 mm. to -40 °C
- Maximum operating temperature (connected) up to 190 °C
- Maximum exposure temperature (disconnected) 200 °C
- Distance between contacts: 1000 mm. / 500 mm. (for AKO-71150)



Reference	Description	Family	Pack
AKO-71110	Heating cable 10 W/m a 230 V, up to 190 °C	Constant Wattage	100 m.(A)
AKO-71115	Heating cable 15 W/m to 230 V, up to 185 °C	Constant Wattage	100 m (A)
AKO-71120	Heating cable 20 W/m a 230 V, up to 168 °C	Constant Wattage	100 m.(A)
AKO-71125	Heating cable 25 W/m to 230 V, up to 185 °C	Constant wattage	100 m (A)
AKO-71130	Heating cable 20 W/m a 230 V, up to 168 °C	Constant Wattage	100 m.(A)
AKO-71135	Heating cable 35 W/m a 230 V, up to 132 °C	Constant Wattage	100 m.(A)
AKO-71150	Heating cable 50 W/m a 230 V, up to 91 °C	Constant Wattage	100 m.(A)
AKO-71092	Connection M25 + end kit	Accessories	1 Unit

(A) The metres of packaged material are the standard ones; however, we reserve the right to supply in different lengths to those indicated.

## Self-regulating heating cable

Polyolefin covering (conductors 2 x 1 mm<sup>2</sup>)

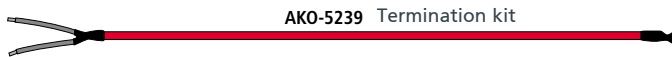
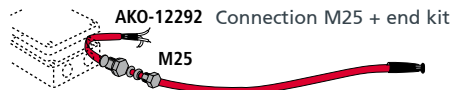


### Exposure temperature up to 65 °C with polyolefin covering

Heating cable is used in the construction facilities to avoid ice in pipes or in the refrigeration to avoid ice. It can be cut to size.

Application: Refrigeration and construction

- Minimum bend radius at 25 mm. to -40 °C
- Maximum operating temperature (connected) 65 °C
- Maximum exposure temperature (disconnected) 65 °C
- Maximum exposure temperature (intermittent, max. 1000 h) 85 °C



Reference	Description	Family	Pack
AKO-71214T	Heating cable 15 W/m to 10 °C, 230 V (9 W/m, 40 °C)	Self-regulating	100m. (A)
AKO-1221	Heating cable 25 W/m to 10 °C, 230 V (11 W/m, 40 °C)	Self-Regulating	100m. (A)
AKO-71218T	Heating cable 30 W/m to 10 °C, 230 V (17 W/m, 40 °C)	Self-regulating	100m. (A)
AKO-12292	Connection M25 + end kit	Accessories	1 Unit
AKO-5239	Termination kit	Accessories	25 Units

## Self-regulating heating cable

Polyolefin covering (conductors 2 x 1,2 mm<sup>2</sup>)



### Exposure temperature up to 65 °C suitable for Ex zone

Heating cable is used in the construction facilities to avoid ice in pipes or in the refrigeration to avoid ice. Suitable for corrosive atmospheres and with risk of explosion. It can be cut to size.

Application: Industry

- Minimum bend radius at 25 mm. to -40 °C
- Maximum operating temperature (connected) 65 °C
- Maximum exposure temperature (disconnected) 65 °C
- Maximum exposure temperature (intermittent, max. 1000 h) 85 °C

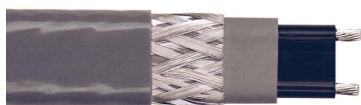


AKO-71492 / AKO-71493

Reference	Description	Family	Pack
AKO-71212P	Heating cable 10 W/m to 10 °C, 230 V (5 W/m, 40 °C)	Self-regulating	-
AKO-71214P	Heating cable 15 W/m to 10 °C, 230 V (8 W/m, 40 °C)	Self-regulating	-
AKO-71216P	Heating cable 25 W/m to 10 °C, 230 V (14 W/m, 40 °C)	Self-regulating	-
AKO-71218P	Heating cable 33 W/m to 10 °C, 230 V (20 W/m, 40 °C)	Self-regulating	-
AKO-71492	Connection M20 + end kit (hot application)	Accessories	1 Unit
AKO-71493	Connection M20 + end kit (cold application)	Accessories	1 Unit

## Self-regulating heating cable

Fluoropolymer covering (conductors 2 x 1,2 mm<sup>2</sup>)



**Exposure temperature up to 65 °C with fluoropolymer covering**  
 Heating cable is used to maintain the temperature up to 65 °C in pipes, tanks, etc. Suitable for corrosive atmospheres and with risk of explosion. It can be cut to size.

Application: Industry

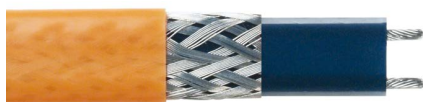
- Minimum bend radius at 25 mm. to -40 °C
- Maximum operating temperature (connected) 65 °C
- Maximum exposure temperature (disconnected) 65 °C
- Maximum exposure temperature (intermittent, max. 1000 h) 85 °C



Reference	Description	Family	Pack
AKO-71212	Heating cable 10 W/m to 10 °C, 230 V (5 W/m, 40 °C)	Self-regulating	–
AKO-71214	Heating cable 15 W/m to 10 °C, 230 V (8 W/m, 40 °C)	Self-regulating	–
AKO-71216	Heating cable 25 W/m to 10 °C, 230 V (14 W/m, 40 °C)	Self-regulating	–
AKO-71218	Heating cable 33 W/m to 10 °C, 230 V (20 W/m, 40 °C)	Self-regulating	–
AKO-71492	Connection M20 + end kit (hot application)	Accessories	1 Unit
AKO-71493	Connection M20 + end kit (cold application)	Accessories	1 Unit

## Self-regulating heating cable

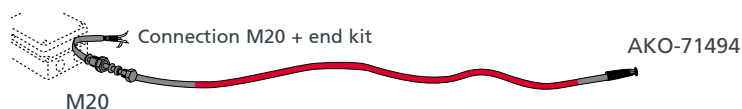
TPC covering (conductors 2 x 1,25 mm<sup>2</sup>)



**Exposure temperature up to 110 °C with TPC covering**  
 Heating cable is used to maintain the temperature up to 110 °C in pipes, tanks, etc. Suitable for corrosive atmospheres and with risk of explosion. It can be cut to size.

Application: Industry

- Minimum bend radius at 25 mm. to -40 °C
- Maximum operating temperature (connected) 110 °C
- Maximum exposure temperature (disconnected) 110 °C
- Maximum exposure temperature (intermittent, max. 1000 h) 130 °C



Reference	Description	Family	Pack
AKO-71241	Heating cable 15 W/m to 10 °C, 230 V (4 W/m, 90 °C)	Self-regulating	–
AKO-71243	Heating cable 30 W/m to 10 °C, 230 V (12 W/m, 90 °C)	Self-regulating	–
AKO-71245	Heating cable 40 W/m to 10 °C, 230 V (18 W/m, 90 °C)	Self-regulating	–
AKO-71494	Connection M20 + end kit	Accessories	1 Unit

## Self-regulating heating cable

Fluoropolymer covering (conductors 2 x 1,2 mm<sup>2</sup>)



**Exposure temperature up to 120 °C with fluoropolymer covering**  
 Heating cable is used to maintain the temperature up to 120 °C in pipes, tanks, etc. allowed steam cleanings. Suitable for corrosive atmospheres and with risk of explosion, It can be cut to size.

Application: Industry

- Minimum bend radius at 25 mm. to -50 °C
- Maximum operating temperature (connected) 120 °C
- Maximum exposure temperature (disconnected) 120 °C
- Maximum exposure temperature (intermitent, max. 1000 h) 190 °C



Reference	Description	Family	Pack
AKO-71250	Heating cable 10 W/m to 10 °C, 230 V (5 W/m, 100 °C)	Self-regulating	–
AKO-71251	Heating cable 15 W/m to 10 °C, 230 V (8 W/m, 100 °C)	Self-regulating	–
AKO-71252	Heating cable 25 W/m to 10 °C, 230 V (14 W/m, 100 °C)	Self-regulating	–
AKO-71253	Heating cable 30 W/m to 10 °C, 230 V (19 W/m, 100 °C)	Self-regulating	–
AKO-71255	Heating cable 45 W/m to 10 °C, 230 V (27 W/m, 100 °C)	Self-regulating	–
AKO-71258	Heating cable 60 W/m to 10 °C, 230 V (37 W/m, 100 °C)	Self-regulating	–
AKO-71494	Connection M20 + end kit	Accessories	1 Unit

## Self-regulating heating cable

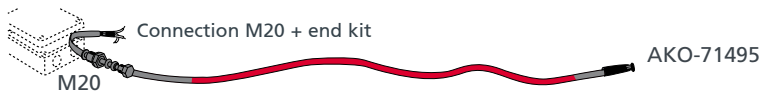
Fluoropolymer covering  
 (Conductors 2 x 1.2 mm<sup>2</sup> for 30 to 60 W/m and 1.9 mm<sup>2</sup> for 75 W/m)



**Exposure temperature up to 200 °C with fluoropolymer covering**  
 Heating cable is used to maintain the temperature up to 200 °C in pipes, tanks, etc. allowed steam cleanings. Suitable for corrosive atmospheres and with risk of explosion. It can be cut to size.

Application: Industry

- Minimum bend radius at 25 mm. to -55 °C
- Maximum operating temperature (connected) 200 °C
- Maximum exposure temperature (disconnected) 200 °C
- Maximum exposure temperature (intermitent, max. 1000 h) 250 °C
- Installed ending kit inside the box and outside the insulation



Reference	Description	Family	Pack
AKO-71261	Heating cable 30 W/m to 10 °C, 230 V (4 W/m, 120 °C)	Self-regulating	–
AKO-71263	Heating cable 45 W/m to 10 °C, 230 V (9 W/m, 120 °C)	Self-regulating	–
AKO-71265	Heating cable 60 W/m to 10 °C, 230 V (19 W/m, 120 °C)	Self-regulating	–
AKO-71267	Heating cable 75 W/m to 10 °C, 230 V (24 W/m, 120 °C)	Self-regulating	–
AKO-71495	Connection M20 + end kit	Accessories	1 Unit

## Series cable Silicone insulation

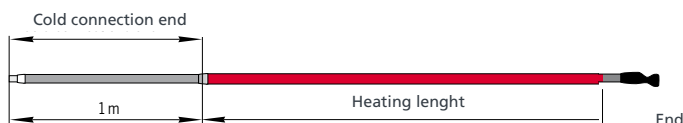


### Heating cable with silicone insulation

They are apt for protection against frost and temperature maintenance in the refrigeration industry. Particularly suitable for domestic electricity, protection against frost in machines of the cold storage industry and the refrigeration industry.

Aplicación: Refrigeration and Industry

- Minimum bend radius at 10 mm. to -40 °C
- Maximum exposure temperature (disconnected) 180 °C



### Flexible silicone range of 50W/m

Reference	Description	Family	Pack
AKO-71370	Heating cable 2 m lenght , 1 m heating length, 50 W, 230 V	Series Cable	10 Units
AKO-71371	Heating cable 2,3 m lenght , 1,3 m heating length 65 W, 230 V	Series Cable	10 Units
AKO-71372	Heating cable 2,5 m lenght , 1,5 m heating length 75 W, 230 V	Series Cable	10 Units
AKO-71373	Heating cable 3 m lenght , 2 m heating length 100 W, 230 V	Series Cable	10 Units
AKO-71374	Heating cable 4 m lenght , 3 m heating length 150 W, 230 V	Series Cable	10 Units
AKO-71375	Heating cable 5 m lenght , 4 m heating length 200 W, 230 V	Series Cable	10 Units
AKO-71376	Heating cable 6 m lenght , 5 m heating length 250 W, 230 V	Series Cable	10 Units
AKO-71377	Heating cable 7 m lenght , 6 m heating length 300 W, 300 V	Series Cable	10 Units
AKO-71378	Heating cable 8 m lenght , 7 m heating length 350 W, 230 V	Series Cable	10 Units
AKO-71379	Heating cable 9 m lenght , 8 m heating length 400 W, 230 V	Series Cable	10 Units

### Flexible silicone range of 15W/m

Reference	Description	Family	Pack
AKO-71382	Heating cable 2,5 m lenght , 1,5 m heating length, 22,5 W, 230 V	Series Cable	10 Units
AKO-71383	Heating cable 3 m lenght , 2 m heating length, 30 W, 230 V	Series Cable	10 Units
AKO-71384	Heating cable 4 m lenght , 3 m heating length, 45 W, 230 V	Series Cable	10 Units
AKO-71385	Heating cable 5 m lenght , 4 m heating length, 60 W, 230 V	Series Cable	10 Units
AKO-71386	Heating cable 6 m lenght , 5 m heating length, 75 W, 230 V	Series Cable	10 Units
AKO-71387	Heating cable 7 m lenght , 6 m heating length, 90 W, 230 V	Series Cable	10 Units
AKO-71388	Heating cable 8 m lenght , 7 m heating length, 105 W, 230 V	Series Cable	10 Units
AKO-71389	Heating cable 9 m lenght , 8 m heating length, 120 W, 230 V	Series Cable	10 Units

## Series cable

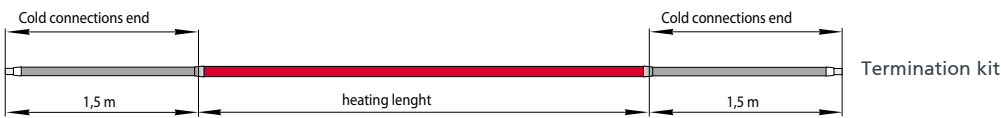
### Quartz fiber insulation



**Exposure temperature up to 900 °C with quartz fiber insulation.**  
 Quartz fiber insulation. Very flexible to adapt it to very small pipes.  
 Installation in dry places with no risk of humidity. These kinds of heating cables are suitable for heating pipes and surfaces up to a maximum temperature of 800 °C.

Application: Industry

- Minimum bend radius at -20 °C 10 mm
- Maximum operating temperature (connected) 800 °C
- Maximum exposure temperature (disconnected) 900 °C



Reference	Description	Family	Pack
AKO-71321	Heating cable 1 m long, 170 W, 230 V	Series Cable	1 Unit
AKO-71323	Heating cable 3 m long, 500 W, 230 V	Series Cable	1 Unit
AKO-71325	Heating cable 5 m long, 800 W, 230 V	Series Cable	1 Unit

## Series cable

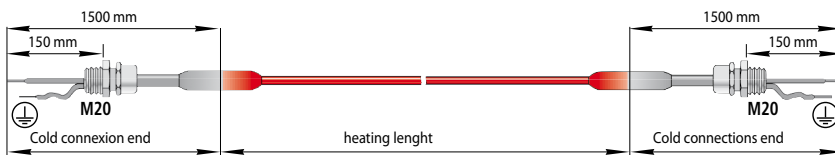
### Mineral insulation + Stainless covering



**Exposure temperature up to 600° C with mineral insulation**  
 Magnesium oxide insulation. Stainless steel exterior covers. Sufficient flexibility to adapt it to surfaces. These kinds of cables are used to heat pipes, tanks, hoppers and other processing equipment up to 530 °C and in cases where cables must withstand up to 600 °C with the cables disconnected.

Application: Industry

- Minimum bend radius at 32 mm. to -20 °C
- Maximum operating temperature (connected): 530 °C
- Maximum exposure temperature (disconnected) 600 °C



Reference	Description	Family	Pack
AKO-71301A	Heating cable 12 m long, 440 W, 230 V, up to 530 °C (safe area)	Series Cable	1 Unit
AKO-71263	Heating cable 20 m long, 1537 W, 230 V, up to 430 °C (safe area)	Series Cable	1 Unit

## Heating resistances

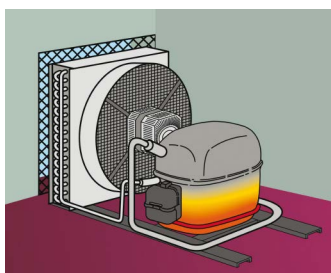
### Refrigeration compressors



#### Universal resistance for hermetic compressors

Heating resistances for refrigerator compressors. They prevent the coolant absorbing oil and are suitable for any type of compressor in a cylindrical or oval shape, boiler or tank.

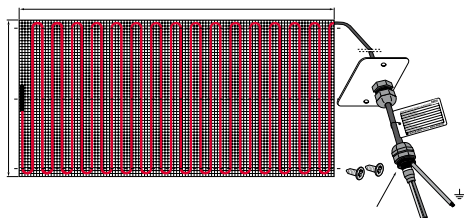
Application: Industrial



Reference	Description	Family	Pack
AKO-71863	Compressor heating cable res 35 W, 120 mm Ømin x 175 mm Ømax.	Accessories	2 Units
AKO-71864	Compressor heating cable res 45 W, 150 mm Ømin x 280 mm Ømax.	Accessories	2 Units
AKO-71866	Compressor heating cable res 65 W, 220 mm Ømin x 320 mm Ømax.	Accessories	2 Units
AKO-71867	Compressor heating cable res 75 W, 245 mm Ømin x 370 mm Ømax.	Accessories	2 Units

## Heaters

### Heating panels

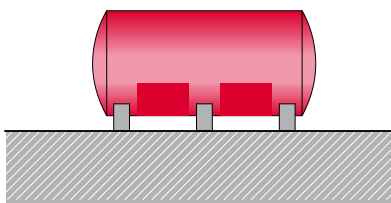


#### Exposure temperature up to 185 °C, flexible for heating tanks and surfaces

Power outputs of 375 W and 875 W. Installed on galvanized metal fabric. They are used to maintain the temperature in horizontal tanks.

Application: Industry

- Nominal dimensions 800 x 1620 mm
- Maximum exposure temperature (connected) up to 185 °C
- Maximum exposure temperature (disconnected) up to 200 °C
- Heating cable AKO-71115 and AKO-71135



Reference	Description	Family	Pack
AKO-71515	Panel 0,8 x 1,62 m, 375 W, 230 V, up to 185 °C	Drum and Tank Heaters	1 Unit
AKO-71535	Panel 0,8 x 1,62 m, 875 W, 230 V, up to 132 °C	Drum and Tank Heaters	1 Unit

## Heating bands

Flexibe bands with thermostat



### Flexible pipes for heating metal drums

Easy to fix the drum. They are usually used to melt solids, liquate viscous materials and maintain the temperature of contained products.

Application: Industry



- For standard metal drums from 25 to 200 L
- Power from 300 W to 1500 W
- Power supply cable 2 m
- Temperature range of thermostat 20 to 120 °C
- Silicone insulation with fiberglass

Reference	Description	Family	Pack
AKO-80034T	Band 1000 W, 230 V, for 200 l drums	Drum and Tank Heaters	2 Units
AKO-80035T	Band 800 W, 230 V, for 105 l drums	Drum and Tank Heaters	1 Unit
AKO-80036T	Band 500 W, 230 V, for 50 l drums	Drum and Tank Heaters	1 Unit
AKO-80037T	Band 300 W, 230 V, for 25 l drums	Drum and Tank Heaters	1 Unit
AKO-80038T	Band 1500 W, 230 V, for 200 l drums	Drum and Tank Heaters	1 Unit

## Heater jacket

Heater Jacket



### Container heaters to 1000 L square tanks

This heater jacket has quick release adjustable buckles for ease of installation and removal and is designed with upper and lower heat zones, each with separate thermostatic control. This allows for the upper heating zone to be switched off once the content level has fallen below half way.

Application: Industry

- Power supply cable 4 m
- Two circuits each 1000 W to 230 V
- Thermostat from 0 to 90 °C
- Included top cap
- Dimensions: 4400 x 1000 mm

Reference	Description	Family	Pack
AKO-80041	Container heater to 1000 l square tanks, 2 x 1000 W, 230 V	Drum and Tank Heaters	1 Unit



## Heaters

### Drum heaters



AKO-718520



AKO-718510

**For products highly sensitive to temperature in a safe area**

Carbon steel diffuser, thermal insulation of 40 mm of glass fiber. They have guides that allow them to be stacked to achieve the required height. Gentle product heating. They are used to melt solids and liquefy viscous materials or materials that are problematic due to their sensitivity to heat, such as greases, glucose, honey, tar, paints, varnishes, phenols, waxes, etc.

Application: Industry

- Power supply cable 3 m.
- Power up to 2915 W per drum
- Outer diameter 750 mm
- Inner diameter 620 mm
- Height 440 mm

Reference	Description	Family	Pack
AKO-718510	Base heater 465 W, 230 V	Drum and Tank Heaters	1 Unit
AKO-718520	Ring heater 1225 W, 230 V	Drum and Tank Heaters	1 Unit

## Heaters

### Drum heaters



**For products highly sensitive to temperature in the Ex area.**

Carbon steel diffuser, thermal insulation of 40 mm of glass fiber. They have guides that allow them to be stacked to achieve the required height. Gentle product heating. They are used to melt solids and liquefy viscous materials or materials that are problematic due to their sensitivity to heat, such as greases, glucose, honey, tar, paints, varnishes, phenols, waxes, etc.

Application: Industry



- Power cable 3 m
- Power up to 2.200 W per drum
- Outer diameter 750 mm
- Inner diameter 620 mm
- Height 440 mm

Reference	Description	Family	Pack
AKO-718720	Ring heater 1100 W, to 10 °C with self-regul. cable	Drum and Tank Heaters	1 Unit

## Accessories



**Junction boxes**

Aluminum, polycarbonate or GFRP (Glass Fiber Reinforced Polymer) boxes very resistant to corrosion and suitable for outdoor installation.

Application: Refrigeration, Construction and Industry

Reference	Description	Family	Pack
AKO-71613	Polycarbonate junction box, with 3 inputs (1 M20, 2 M12), for 2 probes	Accessories	1 Unit
AKO-71608	Aluminum junction box, with 4 inputs M25, Ex area	Accessories	1 Unit
AKO-71609	Aluminum junction box, with 4 inputs M25, safe area	Accessories	1 Unit
AKO-71614	Aluminum junction box, with 4 inputs (1 M25, 3 M20), Ex area	Accessories	1 Unit
AKO-71616	GFRP junction box, with 4 inputs M25, Ex area	Accessories	1 Unit
AKO-71611	GFRP junction box, with 4 inputs M25, safe area	Accessories	1 Unit
AKO-71615	GFRP junction box, with 4 inputs (1 M25, 3 M20), Ex area	Accessories	1 Unit

## Accessories



### Fixing supports and protectors

Stainless steel support for fixing to boxes. Kits for crossing lagging, used to prevent the heating cables from being damaged.

Application: Refrigeration, Construction and Industry

Reference	Description	Family	Pack
AKO-71620*	Cable protector in pipe lagging up to 100 mm. Tª máx 200 °C	Accessories	5 Units
AKO-71625	Support for fixing boxes to the AKO-71620 protector	Accessories	5 Units
AKO-71628	Protector for heating cables in sharp edges	Accessories	20 Units (B)
AKO-71629	Cable protector in tank lagging	Accessories	1 Unit
AKO-71678	Support for junction box. Up to 140 mm insulation	Accessories	10 Units
AKO-717425*	Support for thermostats and boxes up to 100 mm	Accessories	1 Unit
AKO-1901	Stainless steel screw set to make clamp	Accessories	50 Units (B)
AKO-1903	Stainless steel band for clamps	Accessories	30 m (B)

(\*) Includes 2 clamps for diameters of pipe up to 6" (DN 150)

(B) Minimum, indivisible pack units.



### Accessories for installing heating cables

A range of accessories for sealing, fixing, signalling and identifying heating cables makes their installation easy on pipes, tanks and surfaces in general.

Application: Industry and construction

Reference	Description	Family	Pack
AKO-712699	Tube of high temperature sealing silicone 75 ml	Accessories	5 Units
AKO-71630	Support for heating cable in vertical tanks	Accessories	1 Unit
AKO-71635	Installation support for heating cables on roofs and gutters	Accessories	10 Units (B)
AKO-71666	Self-vulcanising sealing tape 9,15 x 19 mm	Accessories	10 Units
AKO-717440	50 m roll of aluminium adhesive tape	Accessories	1 Unit
AKO-717441	33 m roll of glass fiber adhesive tape	Accessories	5 Units
AKO-717445	Set of 5 AKO-TRACE signalling labels	Accessories	1 Unit
AKO-71751	Set of 5 heating section identification labels	Accessories	1 Unit

(B) Minimum, indivisible pack units.



With hot-weld glue for humidity-proof seals. They are used to seal and protect cable splices from humidity.

- Retracts up to 33% of its original size
- Contraction temperature >125 °C
- Operating temperature from -30 °C to +80 °C
- Flexible modified polyolefin material black with interior hot-weld glue

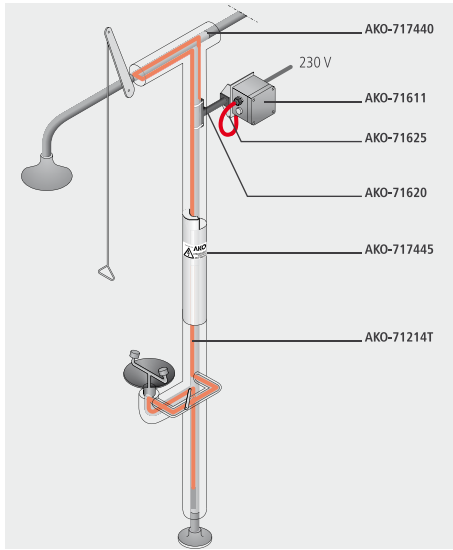
Reference	Description	Family	Pack
AKO-52401	Heat shrink sleeve diameter 12/4 mm, length 1.2 m	Accessories	1 Unit
AKO-52402	Heat shrink sleeve diameter 12/4 mm, length 50 mm	Accessories	25 Units
AKO-52403	Heat shrink sleeve diameter 6/2 mm, length 1.2 m	Accessories	1 Unit
AKO-52404	Heat shrink sleeve diameter 6/2 mm, length 75 mm	Accessories	25 Units

# AKOKIT

Heating cable kit



# Pipes and emergency systems



AKO-SAFE

### Kit to prevent freezing and maintain the temperature in pipes and emergency systems

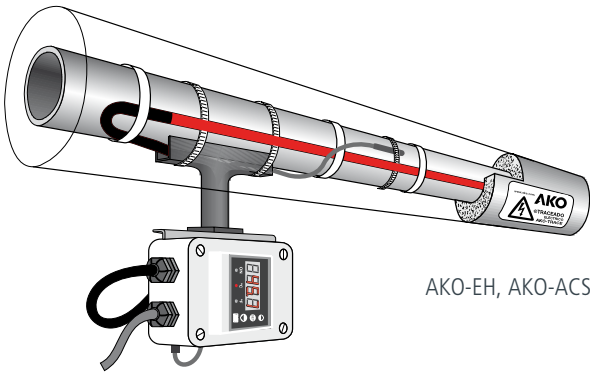
Electric heating of thermal insulated piping by constant wattage parallel heating cable.

Application: Industry and construction

- Maximum exposure temperature 70 °C (due to the use of heat shrink tubing on the end).
- Minimum ambient temperature -10 °C for external piping.
- Minimum ambient temperature 5 °C for indoor piping.
- Minimum temperature stabilization of water 15 °C for installation in showers and 10 °C in water supply pipes for hose reel and hydrant systems.
- Kit for use in ordinary areas.

Immediate solution for your heat-tracing projects without the need for specific technical knowledge. Does not require complex technical calculations. Does not need special tools or handling.

All kits come with the right cable and amounts for each type of application, their accessories, assembly instructions and control elements (in those where this is necessary)



AKO-EH, AKO-ACS, AKO-TI

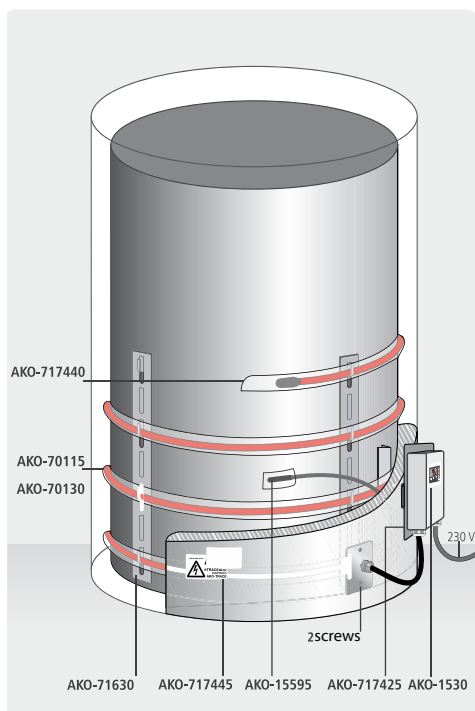
### Kit items:



Reference	Description	Family	Pack
AKO-EH-10	Heat Tracing kit to prevent freezing in pipes up to 5" and 10 m	AKOKITS	1 Unit
AKO-EH-20	Heat Tracing kit to prevent freezing in pipes up to 5" and 20 m	AKOKITS	1 Unit
AKO-EH-40	Heat Tracing kit to prevent freezing in pipes up to 5" and 40 m	AKOKITS	1 Unit
AKO-EH-80	Heat Tracing kit to prevent freezing in pipes up to 5" and 80 m	AKOKITS	1 Unit
AKO-ACS-10	Heat Tracing kit for ACS pipes up to 2" and 10 m*	AKOKITS	1 Unit
AKO-ACS-20	Heat Tracing kit for ACS pipes up to 2" and 20 m*	AKOKITS	1 Unit
AKO-ACS-40	Heat Tracing kit for ACS pipes up to 2" and 40 m*	AKOKITS	1 Unit
AKO-ACS-80	Heat Tracing kit for ACS pipes up to 2" and 80 m*	AKOKITS	1 Unit
AKO-TI10-METAL	Heat Tracing kit for metal pipes up to 3", 60 °C and 10 m	AKOKITS	1 Unit
AKO-TI20-METAL	Heat Tracing kit for metal pipes up to 3", 60 °C and 20 m	AKOKITS	1 Unit
AKO-TI40-METAL	Heat Tracing kit for metal pipes up to 3", 60 °C and 40 m	AKOKITS	1 Unit
AKO-TI80-METAL	Heat Tracing kit for metal pipes up to 3", 60 °C and 80 m	AKOKITS	1 Unit
AKO-TI10-PLAST	Heat Tracing kit for plastic pipes up to 3", 30 °C and 10 m	AKOKITS	1 Unit
AKO-TI20-PLAST	Heat Tracing kit for plastic pipes up to 3", 30 °C and 20 m	AKOKITS	1 Unit
AKO-TI40-PLAST	Heat Tracing kit for plastic pipes up to 3", 30 °C and 40 m	AKOKITS	1 Unit
AKO-TI80-PLAST	Heat Tracing kit for plastic pipes up to 3", 30 °C and 80 m	AKOKITS	1 Unit
AKO-SAFE	Kit to avoid freezing in emergency systems (Showers, hose-reels, etc)	AKOKITS	1 Unit

(\*) ACS stands for hot water

# Tanks and hoppers

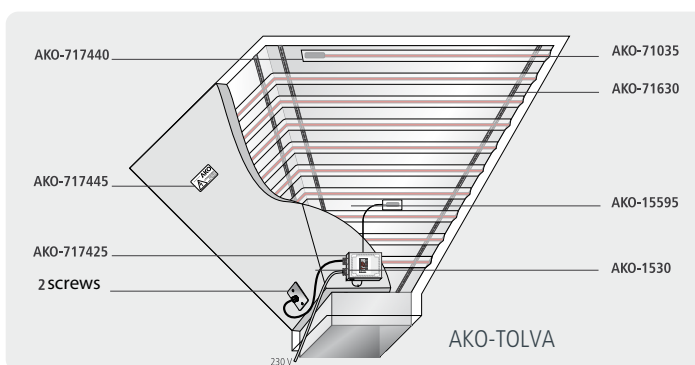


AKO-DV

**Kit to maintain the temperature in tanks and hopper walls to prevent condensation.**  
 Electric heating of thermally insulated vertical and horizontal in tanks and to prevent condensation in hoppers walls  
 Application: Industry and construction

- Maximum exposure temp. 70 °C (due to the use of heat shrink tubing on the end).
- Maximum exposure temperature of 200 °C on unconnected panels.
- Minimum external ambient temperature -10 °C
- Kit for use in ordinary areas.

Immediate solution for your heat-tracing projects without the need for specific technical knowledge. Does not require complex technical calculations. Does not need special tools or handling.  
 All kits come with the right cable and amounts for each type of application, their accessories, assembly instructions and control elements (in those where this is necessary)



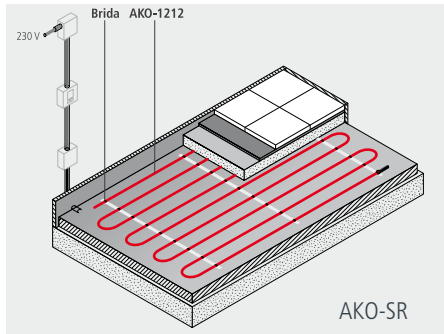
AKO-TOLVA

**Kit items:**



Reference	Description	Family	Pack
AKO-DV-1M3-METAL	Heat tracing kit for maintaining up to 60 °C on vertical steel tanks < 1 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DV-2M3-METAL	Heat tracing kit for maintaining up to 60 °C on vertical steel tanks < 2 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DV-5M3-METAL	Heat tracing kit for maintaining up to 60 °C on vertical steel tanks < 5 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DV-10M3-METAL	Heat tracing kit for maintaining up to 60 °C on vertical steel tanks < 10 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DV-1M3-PLAST	Heat tracing kit for maintaining up to 30 °C on vertical steel tanks < 1 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DV-2M3-PLAST	Heat tracing kit for maintaining up to 30 °C on vertical steel tanks < 2 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DV-5M3-PLAST	Heat tracing kit for maintaining up to 30 °C on vertical steel tanks < 5 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DV-10M3-PLAST	Heat tracing kit for maintaining up to 30 °C on vertical steel tanks < 10 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DH-3M3-METAL	Heat tracing kit for maintaining up to 60 °C on horizontal steel tanks < 3 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DH-5M3-METAL	Heat tracing kit for maintaining up to 60 °C on horizontal steel tanks < 5 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DH-10M3-METAL	Heat tracing kit for maintaining up to 60 °C on horizontal steel tanks < 10 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DH-2M3-PLAST	Heat tracing kit for maintaining up to 30 °C on horizontal steel tanks < 2 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DH-5M3-PLAST	Heat tracing kit for maintaining up to 30 °C on horizontal steel tanks < 5 m <sup>3</sup>	AKOKITS	1 Unit
AKO-DH-10M3-PLAST	Heat tracing kit for maintaining up to 30 °C on horizontal steel tanks < 10 m <sup>3</sup>	AKOKITS	1 Unit
AKO-TOLVA-5M2	Heat tracing kit for maintaining up to 70 °C on hopper walls < 5 m <sup>2</sup>	AKOKITS	1 Unit
AKO-TOLVA-12M2	Heat tracing kit for maintaining up to 70 °C on hopper walls < 12 m <sup>2</sup>	AKOKITS	1 Unit
AKO-TOLVA-20M2	Heat tracing kit for maintaining up to 70 °C on hopper walls < 20 m <sup>2</sup>	AKOKITS	1 Unit
AKO-TOLVA-30M2	Heat tracing kit for maintaining up to 70 °C on hopper walls < 30 m <sup>2</sup>	AKOKITS	1 Unit

## Underfloor heating



### Kit for underfloor heating

Electric heating with constant power cable of underfloors and exterior surfaces (e.g. streets, ramps, terraces, roads).

Application: Construction

- Maximum exposure temperature 70 °C
- Minimum ambient temperature -5 °C for radiant floor.
- Minimum ambient temperature -20 °C for heating of exterior surfaces.
- Kit for use in ordinary areas.

Immediate solution for your heat-tracing projects without the need for specific technical knowledge. Does not require complex technical calculations. Does not need special tools or handling.

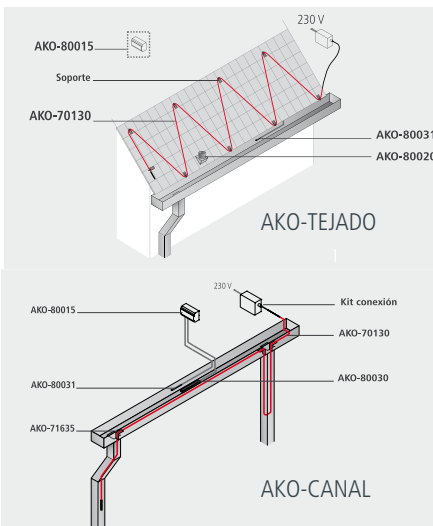
All kits come with the right cable and amounts for each type of application, their accessories, assembly instructions and control elements (in those where this is necessary).

### Kit items:



Reference	Description	Family	Pack
AKO-SR-5M2	Kit for underfloor heating up to 5 m2	AKOKITS	1 Unit
AKO-SR-10M2	Kit for underfloor heating up to 10 m2	AKOKITS	1 Unit
AKO-SR-20MS	Kit for underfloor heating up to 20 m2	AKOKITS	1 Unit
AKO-SE-10M2	Kit for heating exterior surfaces up to 10 m2	AKOKITS	1 Unit
AKO-SE-20M2	Kit for heating exterior surfaces up to 20 m2	AKOKITS	1 Unit
AKO-SE-40MS	Kit for heating exterior surfaces up to 40 m2	AKOKITS	1 Unit
AKO-SE-60MS	Kit for heating exterior surfaces up to 60 m2	AKOKITS	1 Unit

## Roofs and Gutters



### Kit for preventing ice and snow buildup on roofs and in drainage channels.

Constant power parallel heating cable on roofs and gutters.

Application: Construction

- Maximum exposure temperature 70 °C
- Minimum ambient external temperature -20 °C
- Kit for use in ordinary area

Immediate solution for your heat-tracing projects without the need for specific technical knowledge. Does not require complex technical calculations. Does not need special tools or handling.

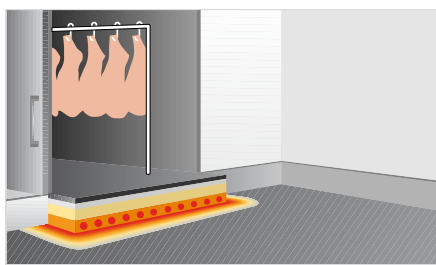
All kits come with the right cable and amounts for each type of application, their accessories, assembly instructions and control elements (in those where this is necessary).

### Kit items:



Reference	Description	Family	Pack
AKO-TEJADO-15M	Kit for heating up to 15 m long roof overhang	AKOKITS	1 Unit
AKO-TEJADO-30M	Kit for heating up to 30 m long roof overhang	AKOKITS	1 Unit
AKO-TEJADO-45M	Kit for heating up to 45 m long roof overhang	AKOKITS	1 Unit
AKO-TEJADO-60M	Kit for heating up to 60 m long roof overhang	AKOKITS	1 Unit
AKO-CANAL-50M	Kit for heating up to 50 m length of guttering	AKOKITS	1 Unit
AKO-CANAL-100M	Kit for heating up to 100 m length of guttering	AKOKITS	1 Unit
AKO-CANAL-150M	Kit for heating up to 150 m length of guttering	AKOKITS	1 Unit
AKO-CANAL-200M	Kit for heating up to 200 m length of guttering	AKOKITS	1 Unit

## Solutions for refrigeration



### Solution for industrial and commercial refrigeration

Electric heating with constant wattage cable to keep the subsoil from freezing eliminating the risk of cold room structure damage.

Application: Construction and refrigeration

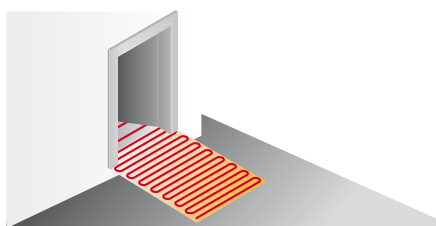
- Maximum exposure temperature 70 °C
- Minimum temperature of -25 °C in display case.
- Minimum temperature of -30 °C in cold rooms.
- Kit for use in ordinary areas.

#### Kit items:



Immediate solution for your heat-tracing projects without the need for specific technical knowledge. Does not require complex technical calculations. Does not need special tools or handling. All kits come with the right cable and amounts for each type of application, their accessories, assembly instructions and control elements (in those where this is necessary).

Reference	Description	Family	Pack
AKO-SC-20M2	Kit for heating cold room underfloors up to 20 m2	AKOKITS	1 Unit
AKO-SC-40M2	Kit for heating cold room underfloors up to 40 m2	AKOKITS	1 Unit
AKO-SC-60M2	Kit for heating cold room underfloors up to 60 m2	AKOKITS	1 Unit
AKO-SC-80M2	Kit for heating cold room underfloors up to 80 m2	AKOKITS	1 Unit
AKO-SC-100M2	Kit for heating cold room underfloors up to 100 m2	AKOKITS	1 Unit



### Solution for industrial and commercial refrigeration

Electric heating with constant wattage cable to keep the cold room entrance free of ice and dry.

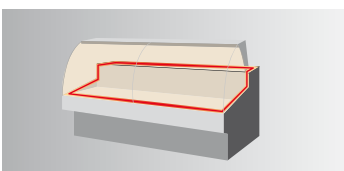
Application: Construction and refrigeration

- Maximum exposure temperature 70 °C
- Minimum temperature of -25 °C in display case.
- Minimum temperature of -30 °C in cold rooms.
- Kit for use in ordinary areas.

#### Kit items:



Reference	Description	Family	Pack
AKO-EC-100	Kit for heating cold room entrances up to 1 m wide	AKOKITS	1 Unit
AKO-EC-150	Kit for heating cold room entrances up to 1,5 m wide	AKOKITS	1 Unit
AKO-EC-200	Kit for heating cold room entrances up to 2 m wide	AKOKITS	1 Unit
AKO-EC-250	Kit for heating cold room entrances up to 2,5 m wide	AKOKITS	1 Unit
AKO-EC-300	Kit for heating cold room entrances up to 3 m wide	AKOKITS	1 Unit



### Solution for industrial and commercial refrigeration

Electric heating with constant wattage cable to prevent formation of ice on door frames and condensation on display windows and floors.

Application: Construction and refrigeration

#### Kit items:



- Maximum exposure temperature 70 °C
- Minimum temperature of -25 °C in display case.
- Minimum temperature of -30 °C in cold rooms.
- Kit for use in ordinary areas.

Reference	Description	Family	Pack
AKO-MPC-4M	Kit for heating cold room door and window frames up to 4 m	AKOKITS	1 Unit
AKO-MPC-8M	Kit for heating cold room door and window frames up to 8 m	AKOKITS	1 Unit
AKO-MPC-12M	Kit for heating cold room door and window frames up to 12 m	AKOKITS	1 Unit

**AKOELEC**

Technology developed for the protection  
and safety of people





## Alarm

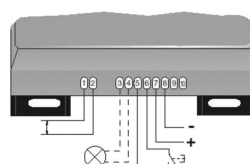
With emergency lighting for lifts, AKO-5404 series



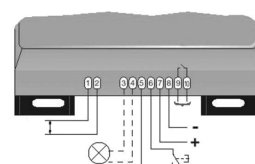
These units comply with EN 81-1.

- Own autonomy of over one hour with automatic Ni-Cd battery recharging.
- Output for rescue lighting 6 V, 500 mA.
- Output for permanent supply 6 V, 40 mA.
- Noise level over 90 decibels at 1 m.
- Dimensions 212 x 139 x 52 mm.
- The units with auxiliary relay allow alarms to be activated remotely in the AKO-5605A centralizer.

AKO-5404C  
Installed in cabin



AKO-54041A 230 V o  
AKO-54043 120 V  
Installed in cabin



Reference	Description	Family	Pack
AKO-5404C	Power supply unit 230 V without relay output	Alarms	12 Units
AKO-54041A	Power supply unit 230 V with relay output	Alarms	12 Units
AKO-54043	Power supply unit 120 V with relay output	Alarms	12 Units

## Alarms

With emergency lighting for lifts, loudspeaker or siren type



AKO-5405A



AKO-5409A

These units comply with EN 81-1.

- Own autonomy of over one hour with automatic battery recharging.
- Output for rescue lighting 6 V, 500 mA.
- Output for permanent supply 6 V, 40 mA.
- Noise level over 90 decibels at 1 m.
- Dimensions 268 x 160 x 116 mm.
- With an auxiliary relay allowing alarms to be activated remotely in the AKO-5605A centralizer

Reference	Description	Family	Pack
AKO-5405A	Device 230 V, output 6 V, alarm with loudspeaker	Alarms	12 Units
AKO-5409A	Device 230 V, output 12 V, alarm with siren	Alarms	8 Units

## Panels

For rescue lighting in cabin, external power supply



These lights panels supplied by alarms come on automatically in the event of loss of electricity, carrying out the function of rescue lighting.

- Material in self-extinguishing polycarbonate V 0 making them very secure against vandalism.
- Dimensions: 111 x 77 x 26 mm.

Reference	Description	Family	Pack
AKO-5406	Surface panel with 2 6 V lamps	Alarms	24 Units
AKO-54061	Surface panel with 2 12 V lamps	Alarms	12 Units
AKO-549505	Lamp 6V, 0,20 A, spare	Alarms	25 Units (B)

(B) Minimum, indivisible pack units.

## Alarm

With emergency lighting for lifts, for fluorescent lamps from 18 to 30 W



These units comply with EN 81-1.

- Own autonomy of over one hour with automatic Ni-Cd battery recharging.
- Rescue lighting output for system with fluorescent tube.
- Output for permanent supply 12 V, 40 mA.
- With an auxiliary relay allowing alarms to be activated remotely in the AKO-5605A centralizer.

Reference	Description	Family	Pack
AKO-5413	Power supply unit for fluorescent lamps from 18 to 30 W	Alarms	6 Units

## Phase detector relays

Phase detector relays

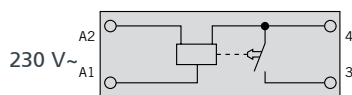


- The same device can be used
- They detect a percentage voltage drop of the three phases.
- They detect a percentage voltage drop of one of the phases.
- They detect phase inversion.
- Contact triggering delay between 1 and 2 sec.
- Maximum contact intensity 8 A, 250 V~,  $\cos\phi=1$ .
- DIN 42880 box dimensions 90 x 71 x 58 mm.
- Combustibility degree V 0 according to UL94.

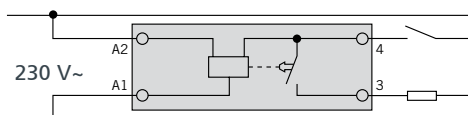
Reference	Description	Family	Pack
AKO-5442B	Detector relay for 400 V, 50 Hz and 230 V, 50 Hz	Detectors	6 Units
AKO-54426	Detector relay for 380 V, 60 Hz and 208 V, 60 Hz	Detectors	6 Units

## Timer relays

For compressor response delay



AKO-5256A



AKO-5255A

Reference	Description	Family	Pack
AKO-5255A	Delay since last disconnection adj. from 50" to 300"	Detectors	10 Units
AKO-5256A	Response delay, adjustable from 30" to 300"	Detectors	10 Units

## Transparent protectors

For fluorescent lamps

Protection of food from contamination.



Reference	Description	Family	Pack
AKO-TUBO 14T	For fluorescent lamp 14 W, Ø 16 mm, 549 mm length	AKOTUBOS	125 Units (B)
AKO-TUBO 15T	For fluorescent lamp 15 W, Ø 26 mm, 438 mm length	AKOTUBOS	25 Units (B)
AKO-TUBO 18T	For fluorescent lamp 18 W, Ø 26 mm, 590 mm length	AKOTUBOS	25 Units (B)
AKO-TUBO 20T	For fluorescent lamp 20 W, Ø 38 mm, 590 mm length	AKOTUBOS	25 Units (B)
AKO-TUBO 21T	For fluorescent lamp 21 W, Ø 16 mm, 849 mm length	AKOTUBOS	125 Units (B)
AKO-TUBO 28T	For fluorescent lamp 28 W, Ø 16 mm, 1149 mm length	AKOTUBOS	125 Units (B)
AKO-TUBO 35T	For fluorescent lamp 35 W, Ø 16 mm, 1449 mm length	AKOTUBOS	125 Units (B)
AKO-TUBO 36T	For fluorescent lamp 36 W, Ø 26 mm, 1200 mm length	AKOTUBOS	25 Units (B)
AKO-TUBO 40T	For fluorescent lamp 40 W, Ø 38 mm, 1200 mm length	AKOTUBOS	25 Units (B)
AKO-TUBO 58T	For fluorescent lamp 58 W, Ø 26 mm, 1500 mm length	AKOTUBOS	25 Units (B)
AKO-TUBO 65T	For fluorescent lamp 65 W, Ø 38 mm, 1500 mm length	AKOTUBOS	25 Units (B)
AKO-TUBO 70T	For fluorescent lamp 70 W, Ø 26 mm, 1740 mm length	AKOTUBOS	25 Units (B)
AKO-617089	For fluorescent lamp 30 W, Ø 26 mm, 895 mm length	AKOTUBOS	25 Units (B)
AKO-617097	For fluorescent lamp 25 W, Ø 26 mm, 970 mm length	AKOTUBOS	25 Units (B)
AKO-61904	For fluorescent lamp 25 W, Ø 26 mm, 818 mm length	AKOTUBOS	25 Units (B)
AKO-619901	White stopper for AKO-TUBOS diam. 26 mm	AKOTUBOS	50 Units (B)
AKO-619902	White stopper for AKO-TUBOS diam. 38 mm	AKOTUBOS	50 Units (B)
AKO-619907	White stopper for AKO-TUBOS diam. 16 mm	AKOTUBOS	50 Units (B)

(B) Minimum, indivisible pack units.

## Colour protectors

For fluorescent lamps

They allow fluorescent lamps to be transformed into colour tubes.



Reference	Description	Family	Pack
AKO-TUBO 18B	Blue For fluorescent lamp 18 W, Ø 26 mm, 590 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 18G	Amber For fluorescent lamp 18 W, Ø 26 mm, 590 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 18R	Red For fluorescent lamp 18 W, Ø 26 mm, 590 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 18V	Green For fluorescent lamp 18 W, Ø 26 mm, 590 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 36B	Blue For fluorescent lamp 36 W, Ø 26 mm, 1200 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 36G	Amber For fluorescent lamp 36 W, Ø 26 mm, 1200 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 36R	Red For fluorescent lamp 36 W, Ø 26 mm, 1200 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 36V	Green For fluorescent lamp 36 W, Ø 26 mm, 1200 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 58B	Blue For fluorescent lamp 58 W, Ø 26 mm, 1500 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 58G	Amber For fluorescent lamp 58 W, Ø 26 mm, 1500 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 58R	Red For fluorescent lamp 58 W, Ø 26 mm, 1500 mm length	AKOTUBOS	25 Units(B)
AKO-TUBO 58V	Green For fluorescent lamp 58 W, Ø 26 mm, 1500 mm length	AKOTUBOS	25 Units(B)

(B) Minimum, indivisible pack units.

**AKONIVEL**

The most reliable solution for level control



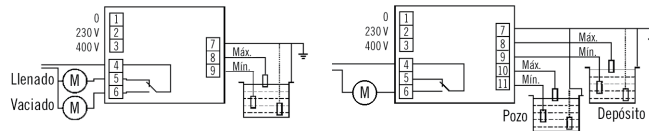
## Level control

Electronic relays for conducting liquids, DIN rail box



Storm interference protection by varistors on the input of the power supply and probes.

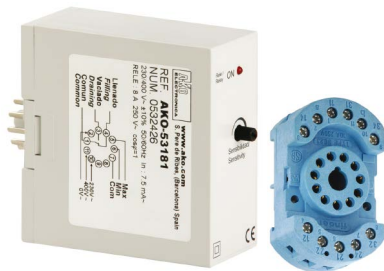
- Maximum length 200 metres.
- For DIN rail and plug-in terminals.
- Sensitivity control.
- Stainless steel electrode probe with protector.



Reference	Description	Family	Pack
AKO-53171	Relay 230/400 V for well or tank	Liquid Control Relays	6 Units
AKO-53172	Relay 230/400 V for well + tank	Liquid Control Relays	6 Units
AKO-53173	Stainless steel electrode probe with protector	Liquid Control Relays	18 Units

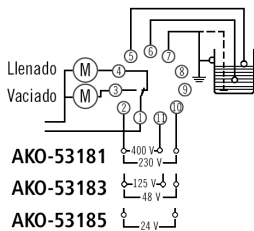
## Level control

Electronic relays for conducting liquids, undecal box



Storm interference protection by varistors on the input of the power supply and probes.

- Maximum length 200 metres.
- For installation on undecal socket.
- Sensitivity control.
- Interior bridge for changing the order of the probes.
- Stainless steel electrode probe with protector.



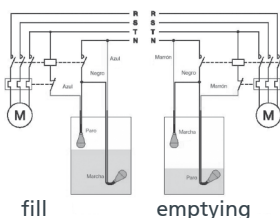
Reference	Description	Family	Pack
AKO-53181	Relay 230/400 V~ for well or tank	Liquid Control Relays	12 Units
AKO-53182	Relay 230/400 V~ for well + tank	Liquid Control Relays	12 Units
AKO-53183	Relay 48/120 V~ for well or tank	Liquid Control Relays	12 Units
AKO-53184	Relay 48/120 V~ for well + tank	Liquid Control Relays	12 Units
AKO-53185	Relay 24 V~ for well or tank	Liquid Control Relays	12 Units
AKO-53186	Relay 24 V~ for well + tank	Liquid Control Relays	12 Units
AKO-53187	Relay 24 V~ for well or tank + alarm relay	Liquid Control Relays	12 Units
AKO-53188	Relay 230 V~ for well or tank + alarm relay	Liquid Control Relays	12 Units
AKO-53173	Stainless steel electrode probe with protector	Liquid Control Relays	18 Units

## Level control

Level switches without mercury or lead for liquids



High reliability to control the level of liquids in clean waters, sewage, waste waters, septic tanks, etc.



- Usable at densities between 0,95 and 1,10 Kg/dm<sup>3</sup>.
- Working temperature between 0 °C and 60 °C.
- Maximum working pressure 4 bar to +20 °C.
- Inverter micro switch 10A, 250 V~, (1/2 CV).
- Polypropylene lid.
- PVC cable

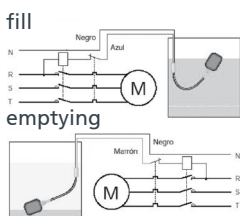
Reference	Description	Family	Pack
AKO-53120	Level switch with 6 m of cable	Switches for Liquids	12 Units
AKO-53124	Level switch with 10 m of cable	Switches for Liquids	1 Unit
AKO-53125	Level switch with 15 m of cable	Switches for Liquids	1 Unit
AKO-53126	Level switch with 20 m of cable	Switches for Liquids	1 Unit
AKO-53127	Level switch with 30 m of cable	Switches for Liquids	1 Unit

## Level control

Level switches for liquids, clean waters and general applications



High reliability to control the level of liquids in clean, drinking waters and general applications.



- Operating temperature between 0 °C and 60 °C.
- Inverter micro switch of 10(4)A, 250~.
- Nominal dimensions 81 x 131 x 41,5 mm.
- Polypropylene lid.
- By regulating the distance of the counter-weight, the maximum and minimum levels are regulated.

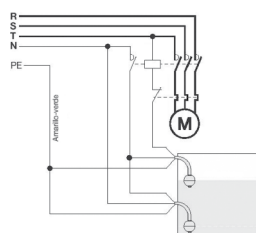
Reference	Description	Family	Pack
AKO-53112	Level switch with 2 m of cable and counter-weight	Switches for Liquids	25 Units
AKO-53114	Level switch with 10 m of cable and counter-weight	Switches for Liquids	12 Units

## Level control

Level switches for corrosive liquids and temperatures up to 125 °C



En acero inoxidable AISI 316 de elevada resistencia a la corrosión.



- Operating temperature between -20 °C and +125 °C.
- Include 1 m of silicon cable of 3 x 0,5 mm<sup>2</sup>.

Reference	Description	Family	Pack
AKO-53161	Horizontal Surface 60 VA, 250~, 40 bar, Ø 52 mm	Switches for Liquids	1 Unit
AKO-53165	Horizontal Surface 40 VA, 250~, 15 bar, Ø 30 mm	Switches for Liquids	1 Unit

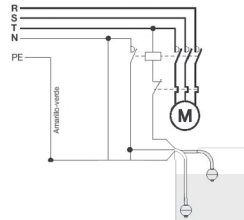
## Level control

Level switches for corrosive liquids and temperatures up to 125 °C



In AISI 316 stainless steel, highly corrosion-resistant.

- Operating temperature between -20 °C and +125 °C.
- Include 1 m of silicon cable of 3 x 0,5 mm2.



Reference	Description	Family	Pack
AKO-53162	Vertical Surface 60 VA, 250~, 40 bar, Ø 52 mm	Switches for Liquids	1 Unit
AKO-53166	Vertical Surface 40 VA, 250~, 15 bar, Ø 30 mm	Switches for Liquids	1 Unit

## Level control

Level switch for solids, membrane system



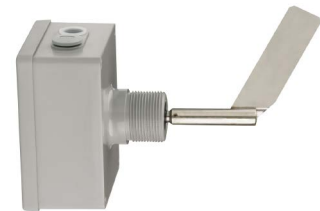
Used in signalling, checking and control of grain or powder dry products, with a maximum diameter of 30 mm and a density between 0.3 and 2.5 g/cm3 flowing in a silo, hopper or conduct.

- Minimum sensitivity: 60 grams.
- Operating temperature between -20 °C y +80 °C.
- Micro switch contact, 15 A, 250 V~
- Buna N nitril membrane.
- Fiber-glass reinforced polypropylene box.

Reference	Description	Family	Pack
AKO-5330	Membrane system level switch	Switches for Solids	12 Units

## Level control

Level switch for solids, stainless steel rotating scoop system



Used in signalling, checking and control of grain or powder dry products, with a maximum diameter of 15 mm flowing in a silo, hopper or conduct.

- Turning speed of 5 r.p.m.
- Operating temperature between -20 °C y +60 °C.
- Micro switch contact, 6 A, 250 V~
- Fiber-glass reinforced ABS box.

Reference	Description	Family	Pack
AKO-5335/230Vac	Level switch with rotating scoop ,230 Vac	Switches for Solids	1 Unit
AKO-5335/24Vdc	Level switch with rotating scoop ,24 Vdc	Switches for Solids	1 Unit
AKO-5335/24Vac	Level switch with rotating scoop ,24 Vac	Switches for Solids	1 Unit
AKO-5335/115Vac	Level switch with rotating scoop ,115 Vac	Switches for Solids	1 Unit



## General conditions of sale

1. The prices in euros indicated do not include taxes, apply to materials placed in your our workshops (collect on delivery) including normal packaging but not the carriage charges for the merchandise sent on account and risk of the buyer.

2. Each product that are included in studies or estimates with designs adapted to customer specifications, the prices are established depending on each project.

3. The prices and conditions apply to materials supplied in container units. Those marked (A): The metres of packaging are the standard ones, but we reserve the right to supply in different lengths than the ones indicated. Those marked (B): Minimum and indivisible container units.

4. The minimum order value of 200,00 Euros (net invoice value) must be taken into consideration for each sale. For exports, a fixed cost (40,00 Euros) may be charged on each order.

5. Our warehouse do not accept the returning of goods without the W.E. indicating that they have previously been authorised to enter. In all case, a charge for depreciation will be made for inspecting and checking the goods.

6. No returns will be accepted after 48 hours have elapsed from the confirmation of the acceptance of the order.

7. Collections of our sales are insured by companies such as "Cesce" or similar companies. Payment of the first order will be done in cash, until the opening of the risk has been authorised for credit sales.

8. The payment method for credits sales will be agreed on in each case after authorised by the Insurance Company. The sales conditions will depend on the payment term.

9. The information show in this catalogue is merely informative.

We reserve the right to supply materials that could differ slightly from those contained in this publication.

## Warranty conditions

1. AKO Electromecànica, S.A.L. guarantees its products for a term of 2 years from the date of sale.

2. This warranty covers the repair or replacement of parts, materials or faulty equipment as a result of factory defects. users will pay all expenses incurred in sending the faulty elements to the AKO premises.

3. AKO will not accept any returned item that has not been authorised previously.

4. The replacement of parts, materials of faulty equipment does not entail an extension of the warranty.

5. AKO will accept claims for differences between quantity and reference supplied within 10 days following the date that the Goods have been received.

6. This Warranty does not cover faults or damage due to the use of the product for a purpose other than the one they are intended for or products that have not been installed in accordance with the instructions for installation.

7. This warranty does not cover products, materials or equipment that have been handled by persons not authorised by AKO.

8. This warranty does not cover faults caused by catastrophic (fire, flood...) or atmospheric events, knocks and falls.

9. AKO is not responsible for any direct or indirect damage caused by failures or faults in its material or products as well as any other claims that could arise in them, unless this is mandatory in accordance with what is provided by the law.

10. To validate the warranty, the materials or products must be accompanied by their respective purchased receipts.



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