



Termómetros termostatos electrónicos

Electronic thermometers thermostats



Los pequeños **Grandes Cerebros** que controlan la **Temperatura**

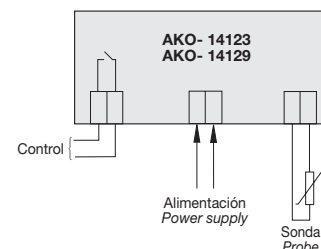
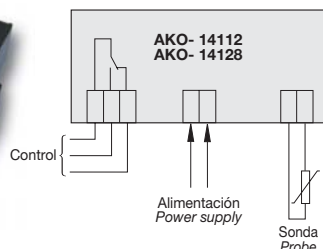


*The little **Big Brains**
that take care of the **Temperature***

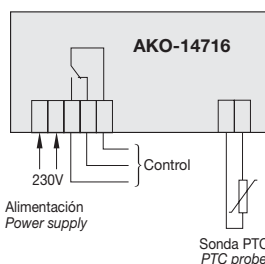
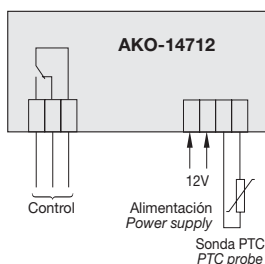
-50°C

Rango / Range

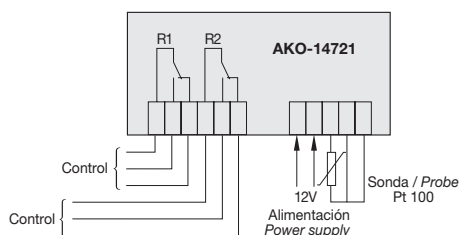
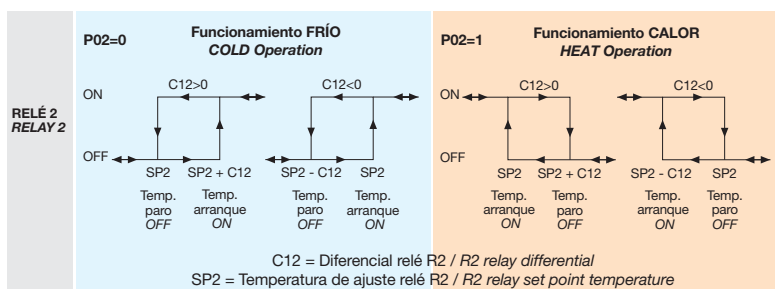
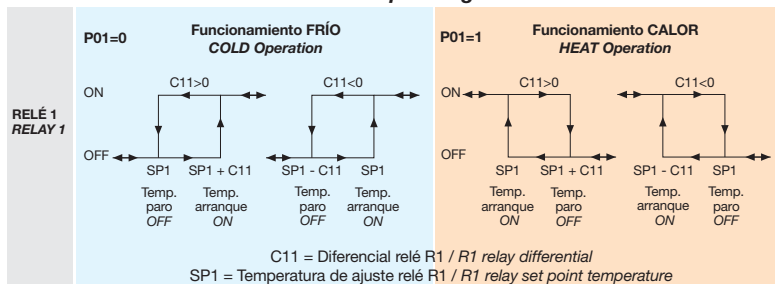
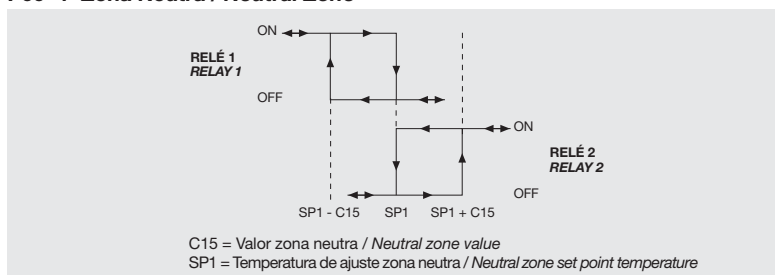
+600°C

-50°C**Rango / Range****+99°C****AKO-14123**

Ref. de catálogo / Catalogue number	AKO-14012	AKO-14023	AKO-14112	AKO-14123	AKO-14128	AKO-14129
Función / Function	termómetro	termómetro	termostato	termostato	termostato	termostato
Alimentación / Power supply 50/60Hz	12/24V $\approx$ $\pm$ 10%	230V $\sim$ $\pm$ 10%	12/24V $\approx$ $\pm$ 10%	230V $\sim$ $\pm$ 10%	230V $\sim$ $\pm$ 10%	230V $\sim$ $\pm$ 10%
Intensidad nominal / Nominal current	76/55mA	6,7mA	110/71mA	8,2mA	9,6mA	11,7mA
Relé / Relay 250V, cos ϕ =1	-	-	8(3)A SPDT	8(3)A SPST	16(4)A SPDT	18(5)A SPST
Sonda NTC incluida / NTC probe included	AKO-14901 de 1,5m					
Precisión del controlador/ Controller accuracy	$\pm$ 1°C					
Tolerancia sonda a 25°C / Probe tolerance at 25°C	$\pm$ 0,4°C					
Más información en / more information in	Hoja técnica 1400H100					

-50°C**Rango / Range****+150°C****AKO-14712, 12V**
AKO-14716, 230V

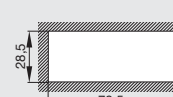
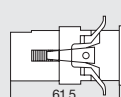
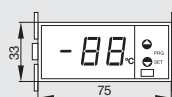
Ref. termostato / <i>Thermostat ref.</i>	AKO-14712	AKO-14716
Alimentación / <i>Power supply</i> 50/60Hz	12V≈ ±20%	230V~ ±10%
Intensidad nominal / <i>Nominal current</i>	96mA	7,8mA
Relé / <i>Relay</i>	SPDT, 8A, 250V, cosφ=1	
Sonda PTC incluida / <i>PTC probe included</i>	AKO-155801 de 1,5m	
Precisión del controlador/ <i>Controller accuracy</i>	±1°C	
Tolerancia de la sonda a 25°C / <i>Probe tolerance at 25°C</i>	±1,25°C	
Parámetros programables / <i>Programmable parameters</i>		
Calibración de sonda (Offset) / <i>Probe calibration</i>	-20°C	a/to +20°C
Diferencial / <i>Differential</i>	1°C	a/to 20°C
Limitador del Punto Ajuste / <i>Set Point limiter</i>	-50°C	a/to +150°C
Retardos de protección / <i>Protection delays</i>	0 min	a/to 99 min
Tipo de funcionamiento / <i>Operation type</i>	Frío o calor / <i>Cold or heat</i>	

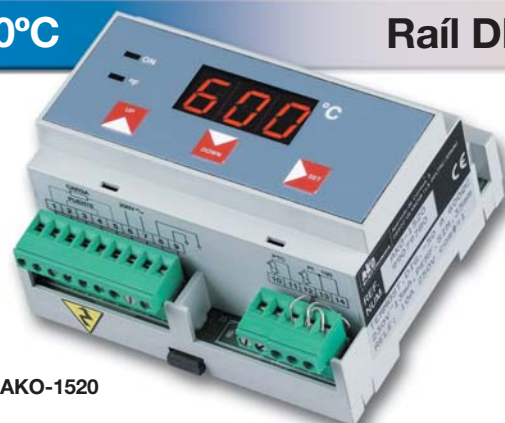
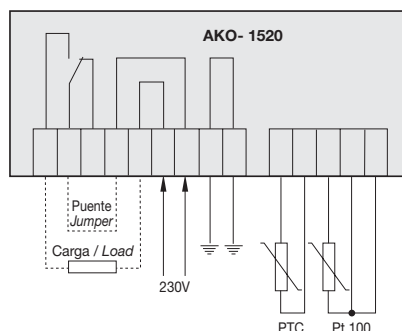
-50°C**Rango / Range****+600°C****AKO-14721****AKO-14721****Modos de funcionamiento y control de los relés****Relay control and operating modes****P00=0 Actuación ON-OFF / ON-OFF operating****P00=1 Zona Neutra / Neutral Zone**

Ref. termostato / Thermostat ref.	AKO-14721
Rango en grados / Degree range	-50°C / +600°C
Punto decimal hasta / Decimal point up to	+99,9°C
Alimentación / Power supply	12V ≈ ±15%
Intensidad nominal / Nominal current	173mA
Relés R1 y R2 / Relay R1 and R2	SPDT, 8A, 250V, cosφ=1
Para tipo de sonda no incluida / For probe type not included	Pt 100
Precisión del controlador / Controller accuracy	±0,5°C
Parámetros programables / Programmable parameters	
Calibración de sonda (Offset) / Probe calibration	-20°C a/to +20°C
Diferencial para R1 y R2 / Differential for R1 and R2	-650°C a/to +650°C
Valor zona neutra / Neutral zone value	1°C a/to +325°C
Limitador Punto Ajuste para R1 y R2 / Set Point limiter for R1 and R2	-50°C a/to +600°C
Retardos de protección para R1 y R2 / Protection delays for R1 and R2	0 min a/to 99 min
Actuación / Operating mode	ON-OFF o Zona Neutra / ON-OFF or Neutral Zone
Tipo de funcionamiento para R1 y R2 / Operation type for R1 and R2	Frío o calor / Cold or heat
Resolución / Resolution	1°C o/or 0,1°C

Dimensiones montaje en panel / Panel mounting dimensions

AKO-14012 AKO-14112 AKO-14712 AKO-14721
 AKO-14023 AKO-14123 AKO-14716
 AKO-14128
 AKO-14129

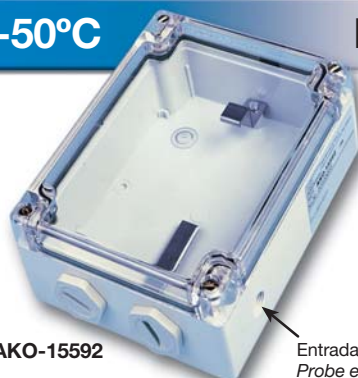


-50°C**Raíl DIN / DIN rail****+600°C****AKO-1520****Ref. termostato / Thermostat ref.****AKO-1520**

Alimentación / Power supply	50/60Hz	230V~ ±10%
Intensidad nominal / Nominal current		13mA
Rango temperatura (sonda Pt 100) / Temperature range (Pt 100 probe)		-50°C / +600°C (-58°F / +999°F)
Rango temperatura (sonda PTC) / Temperature range (PTC probe)		-50°C / +100°C (-58°F / +212°F)
Punto decimal / Decimal point		de / from -9,9°C hasta / up to +99,9°C
Precisión del controlador / Controller accuracy		± 0,5°C
Temperatura ambiente de trabajo / Ambient temperature range		-30°C / +60°C
Relé / Relay		SPDT, 10A, 250V, cosφ=1
Maniobras del relé / Cycles switch life		> 500.000
Bornes para cables / Cable terminals		máx. 2,5mm²
Caja para raíl DIN según / DIN rail mounting box to		DIN 43880 / EN 50022
Dimensiones exteriores / External sizes		105,5 x 90 x 58 mm
Más información en / More information in		Hoja técnica 1520H000

Parámetros programables / Programmable parameters

Selección tipo de grados / Type degrees selection	°C	o/or	°F
Selección tipo de sonda / Type probe selection	Pt 100	o/or	PTC
Calibración de sonda (Offset) / Probe calibration	-20°C	a/to	+20°C
Diferencial / Differential	1°C	a/to	20°C
Limitador del Punto Ajuste / Set Point limiter	-50°C	a/to	+600°C
Retardos de protección / Protection delays	0 seg	a/to	100 seg
Tipo de funcionamiento / Operation type	Frío o calor / Cold or heat		

-50°C**Intemperie / Weatherproof****+600°C****AKO-15592**Entrada de sonda
Probe entry

Instalando un termostato **AKO-1520** en el interior de una caja de protección **AKO-15592** se transforma en un termostato **AKO-1530**.

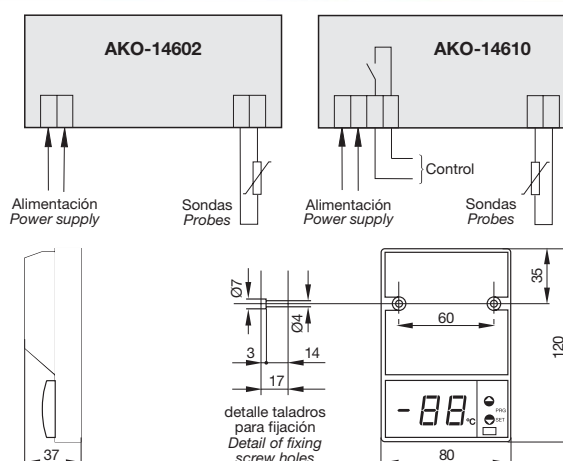
When an **AKO-1520** thermostat installed inside an **AKO-15592** protective enclosure, it becomes an **AKO-1530** thermostat.

**AKO-1530**Entrada de sonda
Probe entry**Ref. termostato / Thermostat ref.****AKO-1530**

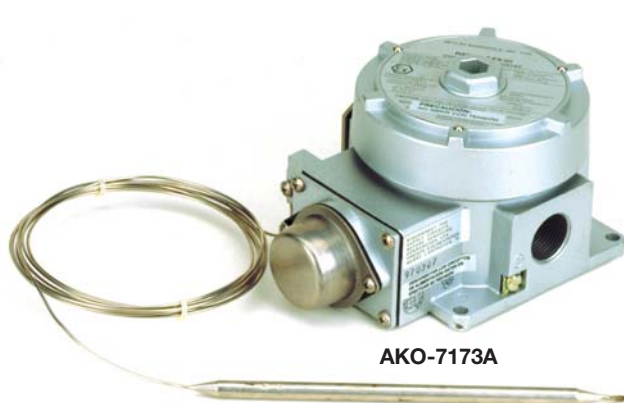
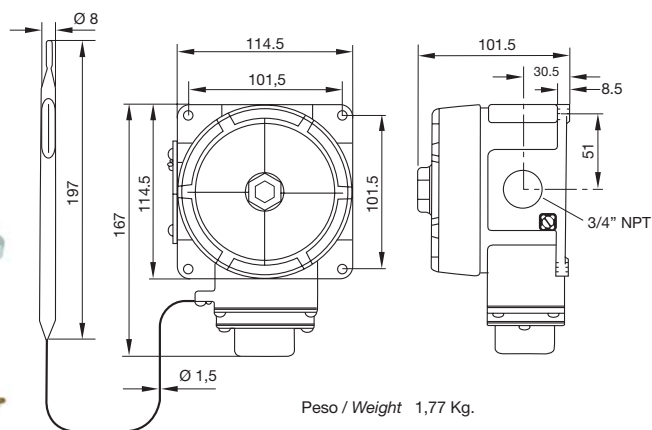
Caja de policarbonato-ABS / Polycarbonate-ABS enclosure	V0 según UL94 / V0 to UL94
Dimensiones exteriores / External sizes	160 x 120 x 66 mm
Distancia entre centros fijación / Fixing centres lengths	127,5 x 105 mm
Grado de protección / Protection	IP 65
Más información en / More information in	Hoja técnica 1530H000

El resto de características son idénticas a las del termostato **AKO-1520** para raíl DIN.

The remaining features are identical to those of the **AKO-1520** thermostat for DIN rail.

-50°C**Montaje mural / Surface mounting****+99°C****AKO-14610**

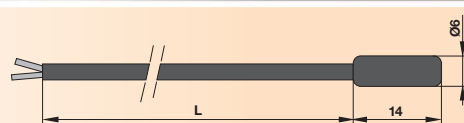
Ref. de catálogo / Catalogue number	AKO-14602	AKO-14610
Función / Function	termómetro	termostato
Alimentación / Power supply	50/60Hz	50/60Hz
Intensidad nominal / Nominal current	230V ~ ±10%	230V ~ ±10%
Relé / Relay	6,7 mA	8,4 mA
Sonda NTC incluida / NTC probe included	-	SPST
Precisión del controlador/ Controller accuracy	AKO-14901 de 1,5m	
Tolerancia de la sonda a 25°C / Probe tolerance at 25°C	±1°C	
Más información en / More information in	±0,4°C	
	Hoja técnica 1400H100	

-4°C**Antideflagrante Ξ Flameproof****+163°C****AKO-7173A**

Ref. termostato / Thermostat ref.	AKO-7173A
Rango de temperatura / Temperature range	-4°C / +163°C
Diferencial / Differential	5°C
Repetibilidad / Repeatability	± 1,7°C
Precisión a 21°C ambiente y 50°C de ajuste / Accuracy at 21°C ambient and 50°C set point	± 4,5°C
Temperatura ambiente admisible / Ambient operating temperature	-20°C / +40°C
Contacto conmutador / Single pole change over switching	22A, 250V~
3 bornes para cables + tierra / 3 cable terminals + earth	1 a/to 4mm ²
Caja de aluminio con una salida / Aluminium enclosure with one entry	3/4" NPT
Adecuado para Zona 1 e intemperie / Suitable for Zone 1 and outdoors	EEx d IIC T6 (EN 50014+EN50018)
Sensor / Sensor	
Rango temperatura de exposición / Exposure temperature range	-50°C / +215°C.
Material del bulbo y capilar / Bulb and capillary material	Acero inox. / Stainless steel

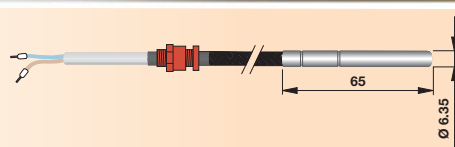
Sondas y accesorios / Probes and accessories-50°C **Sondas NTC / NTC probes** +100°C

AKO-14901 L = 1,5m Vaina y cable
 AKO-14902 L = 2,0m de poliolefina modificada
 AKO-14903 L = 3,0m Sheath and cable
 AKO-14906 L = 6,0m of modified polyolefin

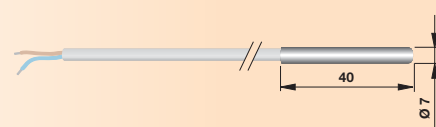
-50°C **Sonda PTC con trenza / Metal braid 100 PTC probe** +100°C

AKO-71729 L = 1,5m

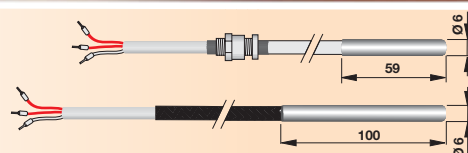
Vaina de acero inoxidable
 Cable de silicona + trenza de acero inoxidable
 Stainless steel sheath
 Silicone rubber cable + steel sheath braided

-50°C **Sondas PTC / PTC probes** +150°C

AKO-155801 L = 1,5m Vaina de latón plateado
 AKO-155802 L = 2,0m Cable de silicona
 AKO-155803 L = 3,0m Plated brass sheath
 AKO-155807 L = 7,0m Silicone rubber cable
 AKO-155815 L = 15,0m
 AKO-155830 L = 30,0m

-50°C **Sonda Pt 100 / Pt 100 probe** +150°C +350°C

AKO-15585 L = 2,0m Hasta / up to 150°C
 Vaina de acero inoxidable / Stainless steel sheath
 AKO-15587 L = 2,0m Hasta / up to 350°C

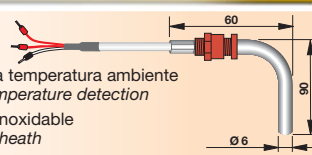
-200°C **Sonda Pt 100 con trenza / Metal braid Pt 100 probe** +600°C

AKO-71727 L = 1,5m

Vaina de acero inoxidable
 Cable de silicona + trenza de
 cobre estañado
 Stainless steel sheath
 Silicone rubber cable + tinned
 copper braided

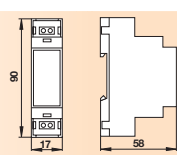
-40°C **Sonda Pt 100 / Pt 100 probe** +60°C

AKO-71726
 Para detectar la temperatura ambiente
 For ambient temperature detection
 Vaina de acero inoxidable
 Stainless steel sheath

**Convertor de alimentación / Power supply converter**

AKO-15589

14 a 30V ≈ 12V, 6VA

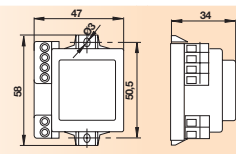
**Cable para prolongación de sondas / Extension probes cable**

AKO-15586
 Cable de 3 x 0,5 mm² con aislamiento,
 de trenza de cobre y cubierta PVC
 3 x 0,5 mm² insulated cable,
 copper braided and PVC outer sheath

Transformador de alimentación / Power supply transformer

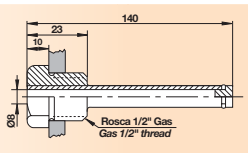
AKO-15590

120-230/12V, 3VA

**Vaina para alojar sondas en depósitos
Sheath for housing probes into tanks**

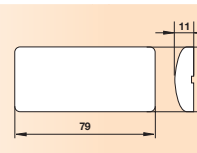
AKO-155908

Material:
 acero inoxidable
 Material:
 Stainless steel material

**Protector frontal / Front protector**

AKO-14910

Plástico transparente para
 equipos montaje en panel
 Transparent plastic for
 panel mounting equipment

**AKO Electromecànica, S.A.L.**

Av. Roquetes, 30-38

08812 S. PERE DE RIBES (Barcelona)

Tel. (34) 938 142 700

Fax (34) 938 934 054

Internet: www.ako.es

e-mail: ako@ako.es

✉ Apartado (P.O. Box), 5

08800 VILANOVA I LA GELTRÚ (Spain)