

Every temperature. One partner.



Control & HMI solutions for HVAC-R

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Engineered
to perform.
Built to last.



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Product Portfolio



01 Electronic Controllers

A complete range of electronic controllers with an intuitive interface, built to satisfy the diverse needs of the refrigeration world — from general purpose applications to specialized solutions for cabinets, cold rooms, food retail and beyond — with intelligent, energy-saving algorithms at their core.



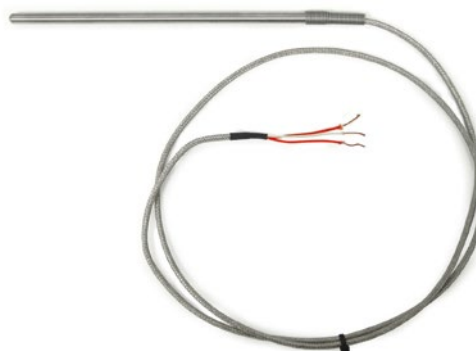
02 Human Machine Interfaces

A full family of displays and keypads — from entry-level 7-segment to LCD and high-end Capacitive Touch TFT — engineered to give every application the right combination of usability, durability and design.



03 Monitoring systems

A range of connectivity devices — IoT Gateways and Dataloggers — designed to interface with the leading cloud platforms, giving OEMs the freedom to choose the local and remote monitoring solution that best fits their needs.



04 Probes and transducers

A complete series of temperature, humidity and pressure sensors and transducers, ensuring the right level of accuracy and lead time for every application.

01

Electronic Controllers

A complete range of electronic controllers built to monitor and optimize refrigeration, food retail, air conditioning and general purpose applications, backed by deep application know-how.

- Refrigeration Controllers
- Refrigeration Controllers - Professional Line
- General Purpose Controllers

Refrigeration controllers

LAE electronic refrigeration controllers deliver energy efficiency and reliability in one package. Defrost on demand, smart evaporator fan management, selectable HT/LT or Heating control and ECO modes reduce running costs, while direct compressor management via high-power, long-life relays keeps maintenance to a minimum.

Compact and easy to configure, with broad sensor compatibility, they install quickly across glass door merchandisers, coolers, commercial fridges and freezers, glass door cabinets, pharmaceutical & scientific cabinets, Plug-In Refrigerated Islands and cold rooms.



A-Series Electronic Controllers

Application-focused controllers for entry-level applications

B-Series Electronic Controllers

Broad-platform controllers for High-efficiency solutions

C-Series Electronic Controllers

Capacitive Touch controllers

AT1-5

Front Panel Mounting

Excellent entry-level solution for HT refrigeration

MAIN FEATURES

- Selectable Refrigerating or Heating control
- Direct compressor control via high-power relay no external contactor
- Integrated defrost and door-open alarm management
- Selectable NTC10K or PTC probe input
- Auxiliary output configurable in four different operation modes
- Temperature, door open alarms
- Optional light control button
- TTL or RS485 serial port
- Selectable ASCII/RTU communication protocol
- Reliable mechanical keypad
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Freestanding upright cabinets and counters, cold stores, plug-in display cases, control panels, heated cabinets

Technical data

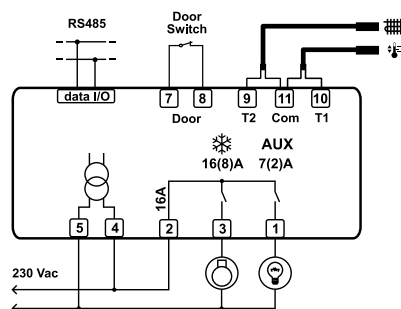
Inputs	Sensor type	NTC10K or PTC1000, selectable		
	Range	-50+120°C		
	Resolution	0.1° / 1° (°C; °F)		
	Accuracy	NTC10K: < ±0.3°C (-40.0+70.0°C); PTC1000: < ±0.5°C (-50+120°C)		
Outputs			AT1-5.Q...	AT1-5.S...
	OUT1	Compressor	12(8)A @240Vac	16(8)A @240Vac
	AUX1	Auxiliary loads	7(2)A @240Vac	7(2)A @240Vac
	Maximum total current		12A	16A
Technical specifications	Power supply	230V~ ±10% 50+60Hz 3W		
	Front protection	IP54 (with gasket)		
	Buzzer	Yes		
	Real Time Clock battery	No		
	Dimensions	77 x 35 x 77 mm		
	Panel cut-out	71 x 29 mm (WxH)		
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH		
Conformity	Marks	CE, UL		
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)		

How to order AT1

Model	Suffix	Opt.	Description
AT1-5			Series, Model and Mounting
Inputs	A		Ambient probe
	B		Ambient probe + evaporator probe + door switch input
Connections	Q		Quick Connections (detachable screw terminals)
	S		Screw Connections (fixed screw terminals)
Outputs	5		Thermostat relay
	6		Thermostat relay + Aux relay
Power supply	D		12 Vac/dc
	E		230 Vac
	U		110 Vac
Relay type			Standard relays
	H		Sealed relays for flammable gas applications
Serial Port	-		None
	A-		TTL serial port
	B-		RS485 serial port
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

- > The standard display is RED
- > All versions include fixing brackets
- > Versions with removable screw terminals are supplied with female connectors.

Wiring diagram



AT1-5BS6E-BGK

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

AT2-5

Front Panel Mounting

Outstanding entry-level solution for HT/LT refrigeration

MAIN FEATURES

- Selectable Refrigerating or Heating control
- Direct compressor control through high power relay
- Selectable electric, hot-gas or off-cycle defrost
- Auxiliary output configurable in 6 operating modes
- NTC10K or PTC input
- Temperature, door open alarms
- Optional light control button
- TTL or RS485 serial port
- Selectable ASCII/RTU communication protocol
- Reliable mechanical keypad
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

High or Low Temperature upright cabinets and counters, cold stores, plug-in display cases, control panels, heated cabinets.

Technical data

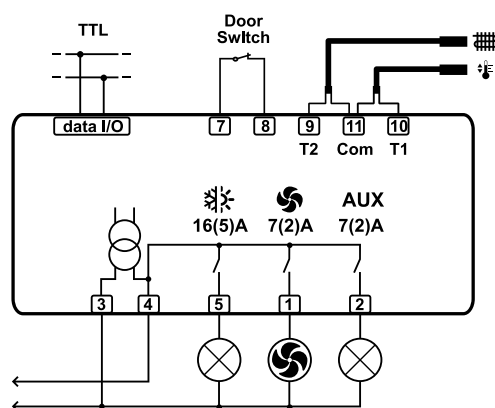
Inputs	Sensor type	NTC10K or PTC1000, selectable		
	Range	-50+120°C		
	Resolution	0.1° / 1° (°C; °F)		
	Accuracy	NTC10K: < ±0.3°C (-40.0+70.0°C); PTC1000: < ±0.5°C (-50+120°C)		
Outputs			AT2-5.Q...	AT2-5.S...
	OUT1	Compressor	12(5)A @240vac	16(5)A @240vac
	AUX1	Evaporator fans	7(2)A @240Vac	7(2)A @240vac
	AUX2	Auxiliary loads	7(2)A @240vac	7(2)A @240vac
	Maximum total current		12A	16A
Technical specifications	Power supply	230V~ ±10% 50+60Hz 3W		
	Front protection	IP54 (with gasket)		
	Buzzer	Yes		
	Real Time Clock battery	No		
	Dimensions	77 x 35 x 77 mm		
	Panel cut-out	71 x 29 mm (WxH)		
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH		
Conformity	Marks	CE, UL		
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)		

How to order AT2

Model	Suffix	Opt.	Description
AT2-5			Series, Model and Mounting
Inputs	B		Thermostat probe + evaporator probe + door switch input
Connections	Q		Quick Connections (detachable screw terminals)
	S		Screw Connections (fixed screw terminals)
Outputs	4		Compressor relay + evap. fans + defrost
Power supply	D		12 Vac/dc
	E		230 Vac
	U		110 Vac
Relay type			Standard relays
	H		Sealed relays for flammable gas applications
Serial Port	A-		TTL serial port
	B-		RS485 serial port
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

- > The standard display is RED.
- > All versions include fixing brackets.
- > Versions with removable screw terminals are supplied with female connectors.

Wiring diagram



AT2-5BS4E-AGK

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

BR5

Front Panel Mounting

All-in-one controller for high-efficiency solutions, with dedicated VCC or EC fan drive

MAIN FEATURES

- Up to 4 fully configurable relay outputs
- Dedicated output for VCC compressors, variable-speed EC fans or an external relay (model dependent)
- Real-time clock available as an option
- Extended power supply
- TTL or RS485 serial port
- Selectable ASCII/RTU communication protocol
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays

APPLICATIONS

Upright refrigerators, plug-in and supermarket display cases, refrigerated vehicles, cold stores, control panels.



Technical data

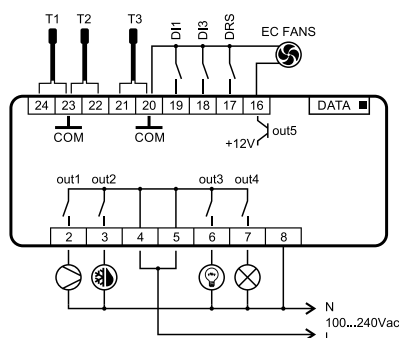
Inputs	Sensor type	NTC 10K Ω @25°C	
	Range	-50+110°C, -58+180°F	
	Resolution	0.1° / 1° (°C; °F)	
	Precision	< $\pm 0.5^\circ\text{C}$ within the measurement range	
	OUT1	Compressor	12A resistive, 3.5 FLA; 21 LRA @240Vac
	OUT2	Auxiliary / fan	7A resistive, 1 FLA; 4 LRA @240Vac
	OUT3	Auxiliary / defrost	7A resistive, 1 FLA; 4 LRA @240Vac
	OUT4	Auxiliary / alarm	7A resistive, 1 FLA; 4 LRA @240Vac
	OUT5	ECM Fan output or VCC output	SELV 90mA @12Vdc
Technical specifications	Power supply	100+240Vac $\pm 10\%$ 50+60Hz 3W	
	Front protection	IP54 (with gasket)	
	Buzzer	Yes	
	Real Time Clock battery	>10 years	
	Dimensions	77 x 35 x 90 mm	
	Panel cut-out	71 x 29 mm (WxH)	
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH	
Conformity	Marks	CE	
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)	

How to order BR5

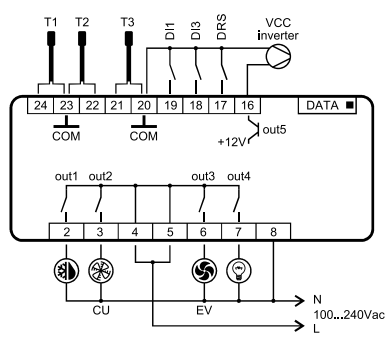
Model	Suffix	Opt.	Description
BR5			Series, Model and Mounting
OUT5 output	-A		ECM Fan output
	-B		VCC output
RTC	0		RTC fitted
	1		RTC absent
	...		...
Inputs/Outputs	01		Standard Version: 6 inputs, 4 outputs
	...		...
Power switch	W		100...240 Vac
Relays			Standard relays
	H		Sealed relays for flammable gas applications
Serial Port		R	RS485
		T	TTL
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

- > The standard display is RED
- > All versions include fixing brackets. Available removable terminals only (female connectors included)

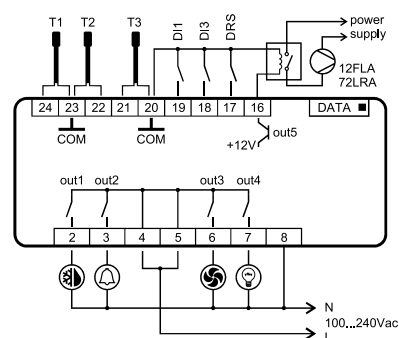
Wiring diagram



EXAMPLE 1



EXAMPLE 2



EXAMPLE 3

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

BD1-28

DIN RAIL Mounting

Split-mount power unit for the most demanding applications

MAIN FEATURES

- Refrigeration controller with cyclic defrosts
- Enhanced ECO Energy Saving management
- Variable Compressor Capacity (VCC) management as option
- Up to 2 auxiliary configurable outputs (Light, switched loads, second evaporator etc.)
- Extended power supply
- Wide choice of remote displays
- TTL/RS485 serial port with selectable ASCII or RTU communication protocol
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Upright refrigerators, plug-in and supermarket display cases, cold stores, control panels.

Technical data

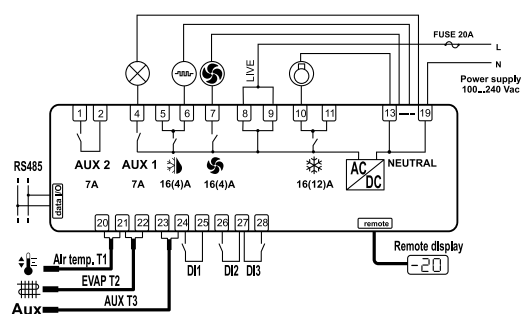
Inputs	Sensor type	NTC10KΩ@25°C		
	Range	-50+ +110°C, -58+ +180°F		
	Resolution	0.1° / 1° (°C; °F)		
	Precision	< ±0.5°C within the measurement range		
Outputs			BD1-28..S	BD1-28..Q
	OUT1	Compressor	16A resistive, 12 FLA, 72 LRA @240Vac	12A resistive, 12 FLA, 72 LRA @240Vac
	OUT2	Auxiliary / fan	16A resistive, 3.6 FLA, 21.6 LRA @240Vac	12A resistive, 3.6 FLA, 21.6 LRA @240Vac
	OUT3	Auxiliary / defrost	16A resistive, 3.6 FLA, 21.6 LRA @240Vac	12A resistive, 3.6 FLA, 21.6 LRA @240Vac
	OUT4	Auxiliary loads 1	7A resistive @240Vac	7A resistive @240Vac
	OUT5	Auxiliary loads 2	7A resistive @240Vac	7A resistive @240Vac
Technical specifications	Power supply	100+240Vac ±10% 50+60Hz 3W		
	Buzzer	Yes		
	Real Time Clock battery	No		
	Dimensions	107 x 95 x 47 mm - DIN rail		
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH		
Conformity	Marks	CE, UL, NSF		
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays		

How to order BD1-28

Model	Suffix	Opt.	Description
BD1-28			Series, Model and Mounting
Inputs	B		Thermostat probe + evaporator probe
	C		Thermostat probe + evaporator probe + auxiliary probe
Aux digital input	0		None
	1		Voltage free aux digital input
Connectors	Q		Quick connections (male + female screw terminals)
	S		Screw connections (fixed screw terminals)
Outputs	2		Compressor + evaporator fans
	3		Compressor + evaporator fans + defrost
	4		Compressor + evaporator fans + defrost + Aux 1
	5		Compressor + evaporator fans + defrost + Aux 1 + Aux
Power Supply	W		100...240 Vac
Relay type			Standard relays
	H		Sealed relays for flammable gas applications
Serial Port	-		None
	-A		TTL serial port
	-B		RS485 serial port
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

> All versions come with an alarm buzzer and digital input DI1, DI2

Wiring diagram



BD1-28C1S5W-B

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
FC04-05P01	Cable 0,5m/1,6ft	Qty 1
FC04-10P01	Cable 1mt/3,3ft	Qty 1
FC04-20P01	Cable 2mt/6,6ft	Qty 1
FC04-30P01	Cable 3mt/9,8ft	Qty 1
FC04-40P01	Cable 4mt/13,1ft	Qty 1

BR1-28

DIN RAIL Mounting

Split-mount power unit with RTC for the most demanding applications

MAIN FEATURES

- Timed defrosts with ECO Energy Saving management
- DIN-rail mounting
- Variable Compressor Capacity (VCC) management as option
- Up to 2 auxiliary configurable outputs (Light, switched loads, second evaporator etc.)
- Extended power supply
- Wide choice of remote displays
- TTL/RS485 serial port with selectable ASCII or RTU communication protocol
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Upright refrigerators, plug-in and supermarket display cases, cold stores, control panels.

Technical data

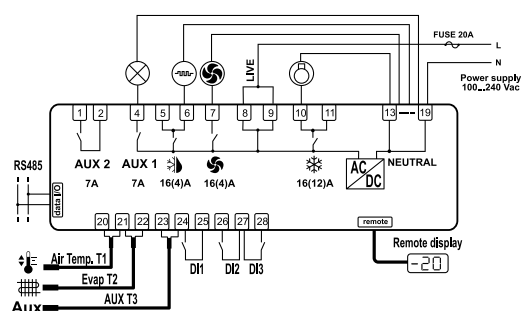
Inputs	Sensor type	NTC10KΩ@25°C		
	Range	-50+ +110°C, -58+ +180°F		
	Resolution	0.1° / 1° (°C; °F)		
	Precision	< ±0.5°C within the measurement range		
Outputs			BR1-28..S	BR1-28..Q
	OUT1	Compressor	16A resistive, 12 FLA, 72 LRA @240Vac	12A resistive, 12 FLA, 72 LRA @240Vac
	OUT2	Auxiliary / fan	16A resistive, 3.6 FLA, 21.6 LRA @240Vac	12A resistive, 3.6 FLA, 21.6 LRA @240Vac
	OUT3	Auxiliary / defrost	16A resistive, 3.6 FLA, 21.6 LRA @240Vac	12A resistive, 3.6 FLA, 21.6 LRA @240Vac
	OUT4	Auxiliary loads 1	7A resistive @240Vac	7A resistive @240Vac
	OUT5	Auxiliary loads 2	7A resistive @240Vac	7A resistive @240Vac
Technical specifications	Power supply	100+240Vac ±10% 50+60Hz 3W		
	Buzzer	Yes		
	Real Time Clock battery	No		
	Dimensions	107 x 95 x 47 mm - DIN rail		
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH		
Conformity	Marks	CE, UL, NSF		
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays		

How to order BR1-28

Model	Suffix	Opt.	Description
BR1-28			Series, Model and Mounting
Inputs	B		Thermostat probe + evaporator probe
	C		Thermostat probe + evaporator probe + auxiliary probe
Aux digital input	0		None
	1		Voltage free aux digital input
Connectors	Q		Quick connections (male + female screw terminals)
	S		Screw connections (fixed screw terminals)
Outputs	2		Compressor + evaporator fans
	3		Compressor + evaporator fans + defrost
	4		Compressor + evaporator fans + defrost + auxiliary 1
	5		Compressor + evaporator fans + defrost + auxiliary 1 + auxiliary 2
Power Supply	W		100...240 Vac
Relay type			Standard relays
	H		Sealed relays for flammable gas applications
Serial Port	-		None
	-A		TTL serial port
	-B		RS485 serial port
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

> All models come with an alarm buzzer and digital inputs DI1, DI2.

Wiring diagram



BR1-28C1S5W-B

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
FC04-05P01	Cable 0,5m/1,6ft	Qty 1
FC04-10P01	Cable 1mt/3,3ft	Qty 1
FC04-20P01	Cable 2mt/6,6ft	Qty 1
FC04-30P01	Cable 3mt/9,8ft	Qty 1
FC04-40P01	Cable 4mt/13,1ft	Qty 1

BR1-27

DIN RAIL Mounting

Clever Refrigeration Controller with RTC

MAIN FEATURES

- Up to six real time defrosts per day
- Enhanced ECO Energy Saving management
- Defrost synchronisation between two or more controllers
- Up to 2 auxiliary configurable outputs (Light, switched loads, second evaporator etc.)
- Extended mains power supply
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol



APPLICATIONS

Cold stores, control panels.

Technical data

Inputs	Sensor type	NTC10KΩ@25°C	
	Range	-50+ +110°C, -58+ +180°F	
	Resolution	0.1° / 1° (°C; °F)	
	Precision	< ±0.5°C within the measurement range	
Output	OUT1	Compressor	16A resistive, 3.6 FLA, 21.6 LRA @240Vac
	OUT2	Evap. Fan	16A resistive, 3.6 FLA, 21.6 LRA @240Vac
	OUT3	Defrost	7A resistive, 1 FLA, 4 LRA @240Vac
	OUT4	Auxiliary loads 1	7A resistive, 1 FLA, 4 LRA @240Vac
	OUT5	Auxiliary loads 2	7A resistive, 1 FLA, 4 LRA @240Vac
Technical specifications	Power supply	100+240Vac ±10% 50+60Hz 3W	
	Buzzer	Yes	
	Real Time Clock battery	>10 years	
	Dimensions	71 x 97 x 61 mm - DIN rail	
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH	
Conformity	Marks	CE	
	Use with flammable refrigerants	No	

How to order BR1-27

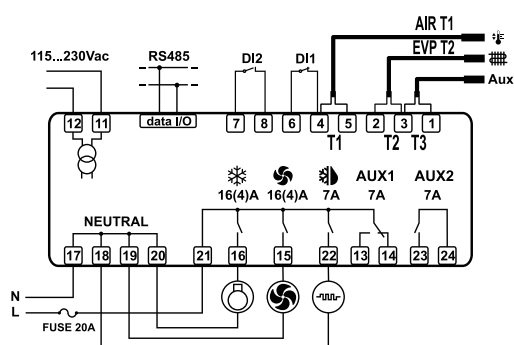
Model	Suffix	Opt.	Description
BR1-27			Series, Model and Mounting
Inputs	B		Thermostat probe + evaporator probe
	C		Thermostat probe + evaporator probe + auxiliary probe
Aux digital input	1		Voltage free aux digital input
Connectors	S		Screw connections (fixed screw terminals)
Outputs	2		Compressor + evaporator fans
	3		Compressor + evaporator fans + defrost
	4		Compressor + evaporator fans + defrost + auxiliary 1
	5		Compressor + evaporator fans + defrost + auxiliary 1 + auxiliary 2
Power Supply	W		100...240 Vac
Serial Port	-		None
	-A		TTL serial port
	-B		RS485 serial port
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

> All models come with an alarm buzzer and digital inputs DI1, DI2

Standard Model

> BR1-27C1S5W-B

Wiring diagram



BR1-27C1S5W-B

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1

CT1-5

Front Panel Mounting

Stylish capacitive-touch controller for HT/LT refrigeration

MAIN FEATURES

- Stylish capacitive touch display and keypad technology
- Up to two relay outputs, freely configurable
- Capacitive-touch keypad, flat surface for easy cleaning
- Extended power supply
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Upright fridges and freezers, plug-in counters, refrigerated tables, cold storage rooms, glass door cabinets, heated cupboards, bain-maries.

Technical data

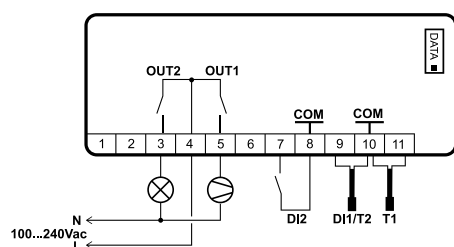
Inputs	Sensor type	NTC10KΩ@25°C	
	Range	-50+ +110°C, -58+ +180°F	
	Resolution	0.1° / 1° (°C; °F)	
	Precision	±0.1°C within the measurement range	
Output	OUT1	Compressor	15 FLA; 90 LRA; 15A resistive @ 120Vac – 240Vac
	OUT2	Auxiliary loads	10A resistive @ 120Vac; 7A resistive @ 240Vac
Technical specifications	Power supply	100+240Vac ±10% 50+60Hz 3W	
	Front protection	IP54 (with gasket)	
	Buzzer	Yes	
	Real Time Clock battery	No	
	Dimensions	77 x 35 x 77 mm	
	Panel cut-out	71 x 29 mm (WxH)	
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH	
Conformity	Marks	CE	
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)	

How to order CT1-5

Model	Suffix	Opt.	Description
CT1-5			Series, Model and Mounting
Inputs	B		3 inputs (Air probe + DI1/T2 + DI2/T3)
Connections	S		Fixed screw terminals
Outputs	1		1 relay output
	2		2 relay output
Power supply	W		100...240 Vac
Relay type	H		Sealed relays for flammable gas applications
Serial port	-		None
	A-		TTL serial port
	B-		RS485 serial port
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

- > The standard display is WHITE
- > All versions include fixing brackets

Wiring diagram



Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

CD5

Capacitive-touch controller for high-end refrigeration cabinets

Front Panel Mounting

MAIN FEATURES

- Immediate configuration of the specific control mode (HT, LT, heating etc.)
- Up to 4 configurable outputs
- Zero-crossing TRIAC output for EC fan switching
- Extended power supply
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Fridges and freezers, cold stores, control panels, food warmers, bain-maries.

Technical data

Inputs	Sensor type	NTC10KΩ@25°C	
	Range	-50+ +110°C, -58+ +180°F	
	Resolution	0.1° / 1° (°C; °F)	
	Precision	±0.1°C within the measurement range	
Output	OUT1	Compressor	15 FLA; 90 LRA; 15A resistive @ 120Vac ~ 240Vac
	OUT2	Auxiliary / defrost	10A resistive @ 120Vac; 7A resistive @ 240Vac
	OUT3	Auxiliary loads	10A resistive @ 120Vac; 7A resistive @ 240Vac
	OUT4	Auxiliary / fan	SSR 1A (30A inrush)
Technical specifications	Power supply	100+240Vac ±10% 50+60Hz 3W	
	Front protection	IP54 (with gasket)	
	Buzzer	Yes	
	Real Time Clock battery	No	
	Dimensions	77 x 35 x 90 mm	
	Panel cut-out	71 x 29 mm (WxH)	
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH	
Conformity	Marks	CE	
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)	

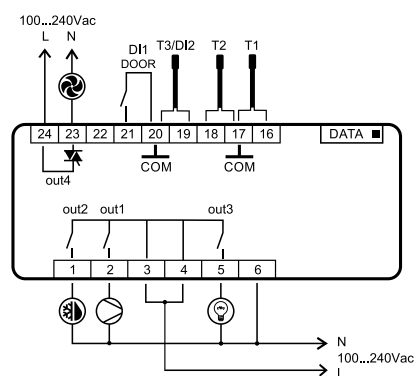
How to order CD5

Model	Suffix	Opt.	Description
CD5			Series, Model and Mounting
Inputs/Outputs	01		Standard version: 4 inputs, 3 relay outputs, 1 SSR output
	02		Standard version: 4 inputs, 3 relay outputs
Power Supply	W		100...240 Vac
Relays	N		Standard relays
	H		Sealed relays for flammable gas applications
Serial port	R		RS485
	T		TTL
	N		None
Display/Overlay	-B		Blue LEDs
	-W		White LEDs
Packaging - Instructions - Customization		xxxx	LAE alpha-numeric code

> The standard display is WHITE

All versions include fixing brackets. Available with removable terminals only (female connectors not included).

Wiring diagram



CD5-01WHRx

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
0GUARNIZ.R11	Front Panel Mounting Gasket	Qty 1
0MCIF06001	6-pole green female removable connector	Qty 1
0MCMF02001	2-pole green female removable connector	Qty 1

CR5

Front Panel Mounting

Capacitive-touch controller for refrigeration with real-time optimized defrost scheduling

MAIN FEATURES

- Immediate configuration of the specific control mode (HT, LT, heating etc.)
- Real-time defrost with optimization algorithm for energy saving
- Up to 4 fully configurable outputs
- Zero-crossing TRIAC output for EC fan switching
- Extended power supply
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Cold stores, fridges and freezers, and all those applications where optimised real time defrosts are needed.

Technical data

Inputs	Sensor type	NTC10KΩ@25°C	
	Range	-50÷ +110°C, -58÷ +180°F	
	Resolution	0.1° / 1° (°C; °F)	
	Precision	±0.1°C within the measurement range	
Output	OUT1	Compressor	15 FLA; 90 LRA; 15A resistive @ 120Vac – 240Vac
	OUT2	Auxiliary / defrosts	10A resistive @ 120Vac; 7A resistive @ 240Vac
	OUT3	Auxiliary loads	10A resistive @ 120Vac; 7A resistive @ 240Vac
	OUT4	Auxiliary / fan	SSR 1A (30A inrush)
Technical specifications	Power supply	100÷240Vac ±10% 50÷60Hz 3W	
	Front protection	IP54 (with gasket)	
	Buzzer	Yes	
	Real Time Clock battery	>10 years	
	Dimensions	77 x 35 x 90 mm	
	Panel cut-out	71 x 29 mm (WxH)	
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH	
Conformity	Marks	CE	
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)	

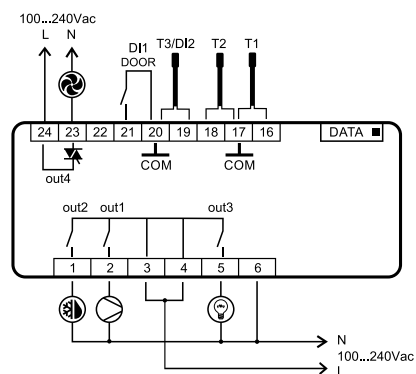
How to order CR5

Model	Suffix	Opt.	Description
CR5			Series, Model and Mounting
Inputs/Outputs	01		Standard version: 4 inputs, 3 relay outputs, 1 SSR output
	02		Standard version: 4 inputs, 3 relay outputs
Power Switch	W		100...240 Vac
Relays	N		Standard relays
	H		Sealed relays for flammable gas applications
Serial port	R		RS485
	T		TTL
Display/Overlay	-B		Blue LEDs
	-W		White LEDs
	-1		White LEDs + Professional Model
Packaging - Instructions - Customization		xxxx	LAE alpha-numeric code

> The standard display is WHITE

All versions include fixing brackets. Available with removable terminals only (female connectors not included).

Wiring diagram



CR5-01WHR

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

CD25

Screw Mounting

Split-mount power unit for high-performance cabinets

MAIN FEATURES

- Direct compressor control through high inrush current relay
- Drive output for an external SSR
- Set of parameters for energy saving
- Flexible split-mounting with easy screw fixing
- Extended power supply
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Upright refrigerators, refrigerated tables, beverage coolers, plug-in display cases for shops and supermarkets, cold rooms, control panels.

Technical data

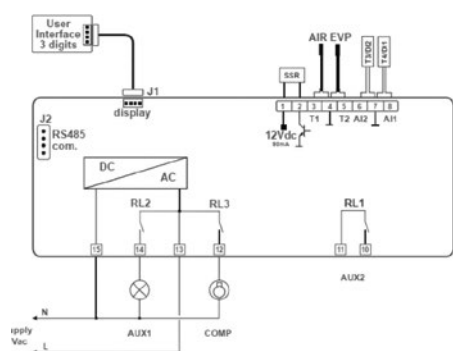
Inputs	Sensor type	NTC10KΩ@25°C	
	Range	-50+ +110°C; -58+ +180°F	
	Resolution	0.1° / 1° (°C; °F)	
	Precision	±0.1°C within the measurement range	
Output	OUT1	Compressor	16FLA ; 96LRA ; 16A resistive @ 240Vac
	OUT2	AUX1	3.6FLA ; 21.6LRA ; 15A resistive @ 240Vac
	OUT3	AUX2	7A resistive @ 240Vac
	OUT4	External SSR control	90mA @ 12Vdc
Technical specifications	Power supply	100...240Vac ±10%, 50/60Hz, 6W	
	Buzzer	Yes	
	Real Time Clock battery	No	
	Dimensions	104 x 87 x 40 mm	
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH	
Conformity	Marks	CE, UL	
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays)	

How to order CD25

Model	Suffix	Opt.	Description
CD25			Series, Model and Mounting
Outputs	4		3 relays, 1 SSR drive
Power supply	W		100...240 Vac 50/60 Hz
Relays	H		Sealed relays for flammable gas applications
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

> All models are fitted with 2 analogue inputs, 2 digital inputs and RS485 serial communication port.

Wiring diagram



CD25-4WH

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
FC04-05P01	Cable 0,5m/1,6ft	Qty 1
FC04-10P01	Cable 1mt/3,3ft	Qty 1
FC04-20P01	Cable 2mt/6,6ft	Qty 1
FC04-30P01	Cable 3mt/9,8ft	Qty 1
FC04-40P01	Cable 4mt/13,1ft	Qty 1

Refrigeration Controllers - Professional Line

Built for distribution and installers, the Professional Line puts the right controller in every installer's hands.

The A-Series PRO is optimized for single, well-defined applications: a simplified interface and a reduced parameter set mean fast setup and virtually no configuration errors on site.

The C-Series PRO takes the opposite approach — one universal controller for multiple commercial refrigeration applications, with a wide choice of selectable sensors and pre-set parameter sets ready for every use case, making it the ideal solution for service and replacement work.



A-Series PRO Electronic Controllers

Simplified controllers for single, dedicated applications

C-Series PRO Electronic Controllers

One universal controller for multiple commercial refrigeration applications

AT1-5 PRO

Front Panel Mounting

Plug-and-play controller for static cabinets

MAIN FEATURES

- Factory-programmed control profile for static cabinets
- Reduced parameter set for fast, error-free commissioning
- 1 probe supplied in the box
- Simplified user interface with dedicated instruction sheet
- Reliable mechanical keypad
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays



APPLICATIONS

Freestanding upright cabinets and counters, cold stores, plug-in display cases, control panels, heated cabinets

Technical data

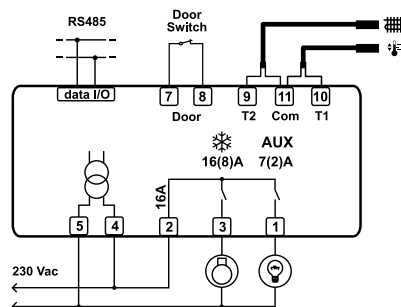
Inputs	Sensor type	NTC10K or PTC1000, selectable		
	Range	-50+120°C		
	Resolution	0.1° / 1° (°C; °F)		
	Accuracy	NTC10K: < ±0.3°C (-40.0+70.0°C); PTC1000: < ±0.5°C (-50+120°C)		
Outputs			AT1-5.Q...	AT1-5.S...
	OUT1	Compressor	12(8)A @240Vac	16(8)A @240Vac
	AUX1	Auxiliary loads	7(2)A @240Vac	7(2)A @240Vac
	Maximum total current		12A	16A
Technical specifications	Power supply	230V~ ±10% 50+60Hz 3W		
	Front protection	IP54 (with gasket)		
	Buzzer	Yes		
	Real Time Clock battery	No		
	Dimensions	77 x 35 x 77 mm		
	Panel cut-out	71 x 29 mm (WxH)		
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH		
Conformity	Marks	CE, UL		
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)		

How to order AT1-5 PRO

Model	Suffix	Opt.	Description
AT1-5			Series, Model and Mounting
Inputs	A		Ambient probe
	B		Ambient probe + evaporator probe + door switch input
Connections	Q		Quick Connections (detachable screw terminals)
	S		Screw Connections (fixed screw terminals)
Outputs	5		Thermostat relay
	6		Thermostat relay + Aux relay
Power supply	D		12 Vac/dc
	E		230 Vac
	U		110 Vac
Relay type			Standard relays
	H		Sealed relays for flammable gas applications
Serial Port	-		None
	A-		TTL serial port
	B-		RS485 serial port
Packaging - Instructions - Customization		Pxxx	Professional version + LAE Alpha-numeric code

- > The standard display is RED
- > All versions include fixing brackets
- > Versions with removable screw terminals are supplied with female connectors.

Wiring diagram



Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

AT2-5 PRO

Zero-setup controller for ventilated cabinets

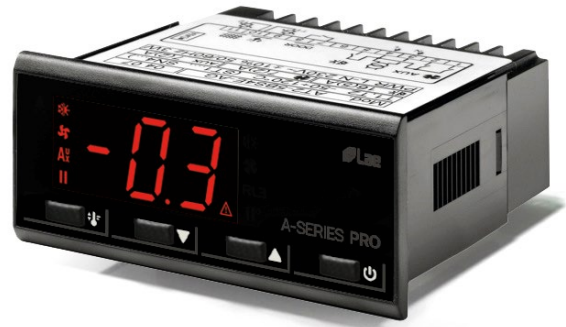
Front Panel Mounting

MAIN FEATURES

- Factory-programmed control profile for ventilated cabinets
- Reduced parameter set for fast, error-free commissioning
- 2 probes supplied in the box
- Simplified user interface with dedicated instruction sheet
- Reliable mechanical keypad
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays

APPLICATIONS

High or Low Temperature upright cabinets and counters, cold stores, plug-in display cases, control panels, heated cabinets.



Technical data

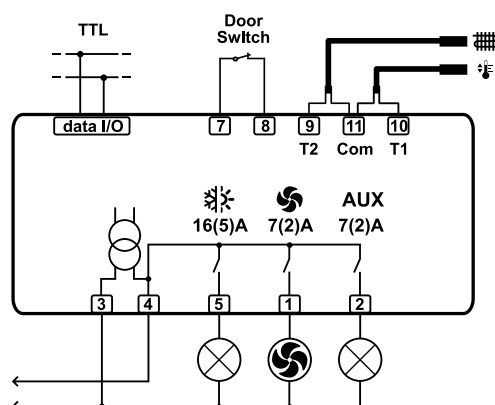
Inputs	Sensor type	NTC10K or PTC1000, selectable		
	Range	-50+120°C		
	Resolution	0.1° / 1° (°C; °F)		
	Accuracy	NTC10K: < ±0.3°C (-40.0+70.0°C); PTC1000: < ±0.5°C (-50+120°C)		
Outputs			AT2-5.Q...	AT2-5.S...
	OUT1	Compressor	12(5)A @240vac	16(5)A @240vac
	AUX1	Evaporator fans	7(2)A @240Vac	7(2)A @240vac
	AUX2	Auxiliary loads	7(2)A @240vac	7(2)A @240vac
	Maximum total current		12A	16A
Technical specifications	Power supply	230V~ ±10% 50+60Hz 3W		
	Front protection	IP54 (with gasket)		
	Buzzer	Yes		
	Real Time Clock battery	No		
	Dimensions	77 x 35 x 77 mm		
	Panel cut-out	71 x 29 mm (WxH)		
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH		
Conformity	Marks	CE, UL		
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)		

How to order AT2-5 PRO

Model	Suffix	Opt.	Description
AT2-5			Series, Model and Mounting
Inputs	B		Thermostat probe + evaporator probe + door switch input
Connections	Q		Quick Connections (detachable screw terminals)
	S		Screw Connections (fixed screw terminals)
Outputs	4		Compressor relay 16A + evap. fans + defrost
Power supply	D		12 Vac/dc
	E		230 Vac
	U		110 Vac
Relay type			Standard relays
	H		Sealed relays for flammable gas applications
Serial Port	A-		TTL serial port
	B-		RS485 serial port
Packaging - Instructions - Customization		Pxxx	Professional version + LAE Alpha-numeric code

- > The standard display is RED
- > All versions include fixing brackets
- > Versions with removable screw terminals are supplied with female connectors.

Wiring diagram



Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
0GUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

CR5 PRO & CK5 PRO

Front Panel Mounting

Available during 2027

The universal multi-application refrigeration controller

MAIN FEATURES

- Pre-configured applications selectable from a single parameter (Ps)
- Universal inputs: wide range of selectable probe types
- Direct compressor control through high inrush current relay
- Zero-crossing TRIAC output for EC fan switching
- Auxiliary output and independent relay
- Embedded local Wi-Fi for fast commissioning and HACCP management
- Extended Power Supply range
- RS485 serial port
- Suitable for flammable refrigerants (A2L/A3) thanks to sealed relays

APPLICATIONS

Cold stores, fridges and freezers, and all those applications where optimised real time defrosts are needed.



Technical data*

Inputs	Sensor type	T1,T2	NTC2k, NTC10k Beta1, NTC10k Beta2, PTC
		T3/DI1, T4/DI2	NTC10k Beta1, NTC10k Beta2, PT1000, Digital Input
		T5/DI3	NTC10k Beta1, NTC10k Beta2, 0-1V, Digital Input
Output	OUT1	Compressor	16A FLA / 96A LRA @240Vac
	OUT2	Auxiliary / defrosts	7A resistive @ 240Vac
	OUT3	Auxiliary loads	10A resistive @ 240Vac (Independent)
	OUT4	Auxiliary / fan	SSR 1A
Technical specifications	Power supply	100÷240Vac ±10% 50÷60Hz 3W	
	Front protection	IP54 (with gasket)	
	Buzzer	Yes	
	Real Time Clock battery	>10 years	
	Dimensions	77 x 35 x 90 mm	
	Panel cut-out	71 x 29 mm (WxH)	
Connectivity	WiFi	CK5...: IEEE 802.11ax 2.4 GHz Wi-Fi 6 (fully compatible with IEEE 802.11b/g/n protocol)	
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH	
Conformity	Marks	CE	
	Use with flammable refrigerants	A2L/A3 gases thanks to sealed relays (model depending)	

*Preliminary

How to order CR5 PRO & CK5 PRO

Model	Suffix	Opt.	Description
CR5			Series, Model (R: RTC - K: RTC+Wireless) and Mounting
Inputs/Outputs	xx		Standard version
Power Switch	W		100...240 Vac
Relays	H		Sealed relays for flammable gas applications
Serial port	R		RS485
Display/Overlay	-1		White LEDs + Professional Model
Packaging - Instructions - Customization		xxxx	LAE alpha-numeric code

- > The standard display is white
- > All versions include fixing brackets

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1



General Purpose Controllers

Flexible general purpose controllers for any application that requires precise temperature or humidity control — single or 2-output, ON/OFF or PID, with a choice of probe inputs for Refrigeration, Heating, Dehumidifying and Humidifying.

From electrical panels and cold rooms to professional kitchens, greenhouses, seasoning cells and laboratory equipment.



AC-Series Electronic Controllers

Dual-output general purpose controller with PID or ON/OFF regulation



LTR-Series Electronic Controllers

Compact single-output general purpose controller

AC2-5

77 x 35 x 77 mm

Dual-output general-purpose controller for temperature and humidity control

MAIN FEATURES

- Stylish Capacitive Touch display and keypad technology
- Cooling/heating and humidifying/dehumidifying, selectable
- Main output: changeover contact relay or external SSR control
- Auxiliary output on relay
- PID with autotuning or ON/OFF control
- Inputs for NTC/PTC, 0-1V, thermocouple J/K, Pt100 (model dependent)
- Extended power supply
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol
- Absolute or relative temperature alarms



APPLICATIONS

Temperature: Control of heating systems, heated cupboards, bains-marie, ovens, laboratory equipment.

Humidity: Control of greenhouses, seasoning cells, cold rooms, air-conditioned rooms.

Technical data

		AC2-5T...		AC2-5P...	AC2-5J...		AC2-5A...	AC2-5I... **
Inputs	Type	PTC	NTC10K	Pt100	TC °J*	TC °K*	0-1V	0/4...20mA
	Range	-50÷150°C / -60÷300°F	-40÷125°C / -40÷260°F	-100÷850°C / -150÷999°F	-50÷750°C / -60÷999°F	-50÷999°C / -60÷999°F	Configurable in setup	Configurable in setup
	Accuracy	±0.3°C / ±0.6°F	±0.3°C / ±0.6°F	< ±0.3°C -50...150°C; ±1°C out of that range	< ±3°C / < ±5°F		< ±3mV	< ±0.2mA
	Resolution	0.1/1°C/1°F			1°C/°F		0.1/1	0.1/1
Outputs	OUT1* (Relay)	3.6 FLA, 21.6 LRA @ 240Vac; 12A resistive DC30 10A						
	OUT1* (External SSR control)	15mA 12Vdc						
	OUT2 (Relay)	1 FLA, 6 LRA @ 240Vac; 7A resistive DC30 5A						
Technical specifications	Power supply	AC2-5...W 100 ÷ 240 Vac ±10%, 50/60Hz, 3W AC2-5...L 7 ÷ 30Vdc / 12Vac ± 10%, 3W (power supply of the controller and of the loads must be of type SELV or PELV)						
	Front protection	IP54 (with gasket)						
	Buzzer	No						
	Real Time Clock battery	No						
	Dimensions	77 x 35 x 77 mm						
	Panel cut-out	71 x 29 mm (WxH)						
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH						
Conformity	Marks	CE						
	Use with flammable refrigerants	No						

* model dependent

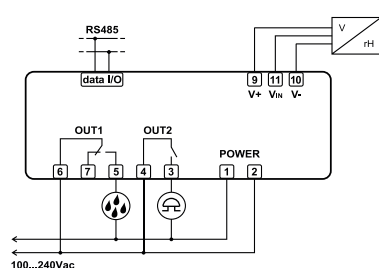
** Available upon request

How to order AC2-5

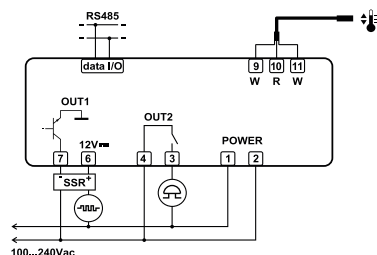
Model	Suffix	Opt	Description
AC2-5			Model and dimensions main unit 5 series
Inputs	A		Input 0...1V
	I		Input 0 / 4...20mA
	J		TC "J" (Iron-Constantan) / TC "K" (Chromel-Alumel)
	P		Thermistor Pt100
	T		PTC1000 / NTC10K
Connections	S		Screw Connections (built in screw terminals)
Outputs	1		Output 1
	2		Output 1 + 2
Type of outputs	R		Outputs on relay
	M		Output 1 on SSR drive, output 2 on relay
Power Supply	L*		7 ± 30Vdc / 12Vac
	W		100 ± 240 Vac
Serial port	-		None
	A-		TTL
	B-		RS485
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

- > The standard display is RED
- > All versions include fixing brackets

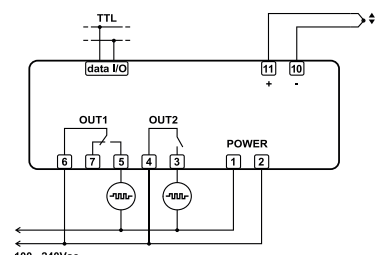
Wiring diagram



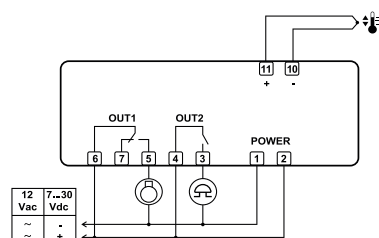
AC2-5AS2RW-B



AC2-5PS2MW-B



AC2-5JS2RW-A



AC2-5JS2RL

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

AC2-27

DIN RAIL Mounting

Dual-output general-purpose controller for temperature and humidity control, in DIN-rail format

MAIN FEATURES

- Available with various mains power supply options
- Cooling/heating and humidifying/dehumidifying, selectable
- Main output: changeover contact relay or external SSR control
- Auxiliary output on changeover contact relay
- Standard DIN-rail mounting
- PID with autotuning or ON/OFF control
- Inputs for NTC/PTC, 0–1V, thermocouple J/K, Pt100 (model dependent)
- Absolute or relative temperature alarms
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol
- Extended power supply, TTL/RS485 serial port

APPLICATIONS

Temperature: on control panels for small cold stores, heating systems, heated cupboards, bains-marie, ovens, laboratory equipment.

Humidity: Control of greenhouses, seasoning cells, cold rooms, air-conditioned rooms.



Technical data

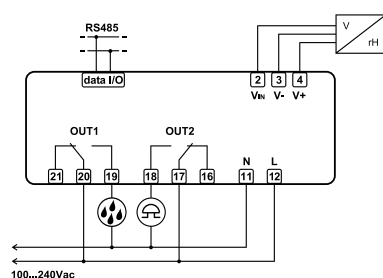
		AC2-27T...		AC2-27P...	AC2-27J...		AC2-27A...
Inputs	Type	PTC	NTC10K	Pt100	TC "J"	TC "K"	0-1V
	Range	-50÷150°C / -60÷300°F	-40÷125°C / -40÷260°F	-100÷850°C / -150÷999°F	-50÷750°C / -60÷999°F	-50÷999°C / -60÷999°F	Configurable in setup
	Accuracy	±0.3°C / ±0.6°F	±0.3°C / ±0.6°F	-100÷850°C / -150÷999°F	< ±3°C / < ±5°F		< ±3mV
	Resolution	0.1/1°C/1°F			1°C/°F		0.1/1
Outputs	OUT1 (Relay)	3.6 FLA; 21.6 LRA @240Vac; 12A resistive					
	OUT1 (External SSR control)	15mA 12Vdc					
	OUT2 (Relay)	3.6 FLA; 21.6 LRA @240Vac; 12A resistive					
Technical specifications	Power supply	AC2-5...W 100 ÷ 240 Vac ±10%, 50/60Hz, 3W AC2-5...L 7 ÷ 30Vdc / 12Vac ± 10%, 3W (power supply of the controller and of the loads must be of type SELV or PELV)					
	Buzzer	No					
	Real Time Clock battery	No					
	Dimensions	72 x 94 x 61 mm - DIN rail					
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH					
Conformity	Marks	CE					
	Use with flammable refrigerants	No					

How to order AC2-27

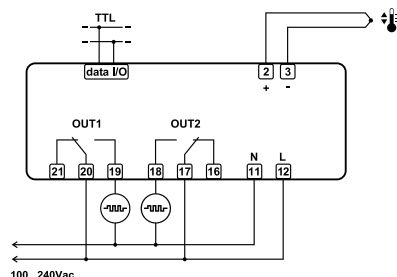
Model	Suffix	Opt.	Description
AC2-27			Model and dimensions main unit 27 series
Inputs	A		Input 0...1V
	J		TC "J" (Iron-Constantan) / TC "K" (Chromel-Alumel)
	P		Thermistor Pt100
	T		PTC1000 / NTC10K
Connections	S		Screw Connections (built in screw terminals)
Outputs	1		Output 1
	2		Output 1 + 2
Type of outputs	R		Outputs on relay
	M		Output 1 on SSR drive, output 2 on relay
Power Supply	L*		7...30Vdc / 12Vac $\pm 10\%$
	W		100...240 Vac
Serial port	-		None
	A-		TTL
	B-		RS485
Packaging - Instructions - Customization		xxxx	LAE Alpha-numeric code

* In the AC2-27...L version, the power supply of the controller and of the loads must be of type SELV or PELV.

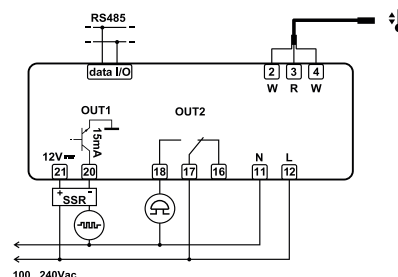
Wiring diagram



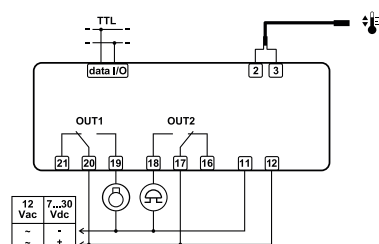
AC2-27AS2RW-B



AC2-27JS2RW-A



AC2-27PS2MW-B



AC2-27TS2RL-A

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1

LTR-5

77 x 35 x 77 mm

Single-output general-purpose controller

MAIN FEATURES

- Available with various mains power supply options
- PID with autotuning or ON/OFF control
- Cooling/heating and humidifying/dehumidifying, selectable
- Main output: changeover contact relay or external SSR control
- PTC, NTC or 0-1V inputs (model dependent)
- TTL/RS485 serial port
- Selectable ASCII/RTU communication protocol
- Reliable mechanical keypad



APPLICATIONS

Temperature: Control of small cold stores, refrigerated cabinets and tables, heating systems, heated cupboards, bains-marie, ovens, laboratory equipment.

Humidity: Control of greenhouses, seasoning cells, cold rooms, air-conditioned rooms.

Technical data

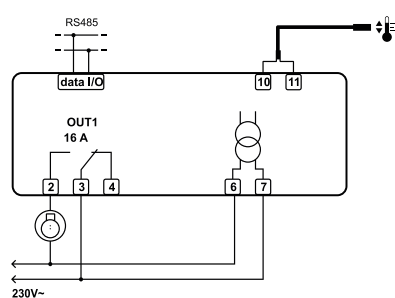
		LTR-5T...	LTR-5C..	LTR-5A..
Inputs	Type	PTC	NTC10K	0-1V
	Range	-50+150°C / -60+300°F	-50 + 125°C / -40 + 250°F	Configurable in setup
	Accuracy*	±0.3°C / ±0.6°F	±0.3°C / ±0.6°F	< ±3mV
Outputs	OUT1 (Relay)	3.6 FLA; 21.6 LRA @240Vac; 16A resistive		
	OUT1 (External SSR control)	15mA 12Vdc		
Technical specifications	Power supply	LTR-5...D 12Vac/dc ±10%, 2W LTR-5...E 230Vac ±10%, 50/60Hz, 2W		
	Front protection	IP54 (with gasket)		
	Buzzer	No		
	Real Time Clock battery	No		
	Dimensions	77 X 35 X 77 mm		
	Panel cut-out	71 x 29 mm (WxH)		
Environment conditions	Operating temperature & humidity	-10... +50°C; 15%... 80% rH		
Conformity	Marks	CE		
	Use with flammable refrigerants	No		

How to order LTR-5

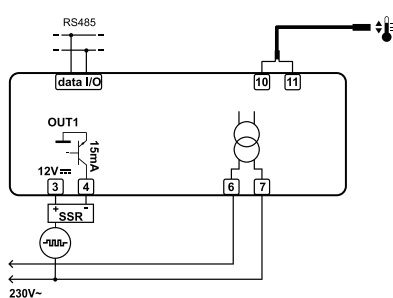
Model	Suffix	Opt.	Description
LTR-5			Model and dimensions
Inputs	A		0..1V (rH%) input
	C		NTC 10K
	T		PTC1000
Connections	S		Screw Connections (built in screw terminals)
Output type	R		Output on relay 3.6 FLA, 21.6 LRA 240Vac - 16A resistive
	F		Output on SSR drive 15mA 12Vdc
Supply voltage	D		12 Vac/dc
	E		230 Vac
Aux functions			No communication port
	A		TTL serial communication port
	B		RS485 serial communication port
Packaging - Instructions for use	-M		Multiple packaging without instructions
	-nn		Individual packaging with instructions (see instructions table)

- > The standard display is RED
- > All versions include fixing brackets

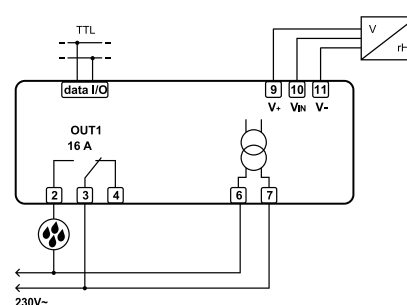
Wiring diagram



LTR-5CSREB



LTR-5CSFEB



LTR-5ASREA

Accessories

ZOT2-A	USB-to-TTL/RS485 programming adapter. Enables configuration upload and download.	Qty 1
FC04-10DP01	Serial cable with 4-pole JST PAP connector. Enables connection of the ZOT2-A to an electronic controller. Length: 1 m (3.28 ft).	Qty 1
OGUARNIZ.R11	Front Panel Mounting Gasket	Qty 1

Accessories

CONVERTERS



ZOT2-A

USB-to-TTL/RS485 programming key. Makes possible configuration upload and download



FC04-10DP01

Serial cable 4-Pole, AMP MODU / JST PAP Connector. Makes it possible to connect the ZOT2-A to a electronic controller. Length: 1m (3.28ft).



USB485-STIXL

Electrically isolated USB-RS485 converter (2 wire half duplex RS485)

FEMALE CONNECTORS

0MCIF06001

6-pole green female removable connector, Pitch 5 mm

0MCMF05001

5-pole green female removable connector, Pitch 5 mm

0MCMF04001

4-pole green female removable connector, Pitch 5 mm

0MCMF03001

3-pole green female removable connector, Pitch 5 mm

0MCMF02001

2-pole green female removable connector, Pitch 5 mm

CABLES

FC04-05P01

4-Pole cable, JST PAP Connector.
Length: 0,5m (1,6ft)

FC04-10P01

4-Pole cable, JST PAP Connector.
Length: 1m (3,3ft)

FC04-20P01

4-Pole cable, JST PAP Connector.
Length: 2m (6,6ft)

FC04-30P01

4-Pole cable, JST PAP Connector.
Length: 3m (9,8ft)

FC04-40P01

4-Pole cable, JST PAP Connector.
Length: 4m (13,1ft)

02

Human Machine Interfaces

LAE electronic offers a complete range of Human Machine Interfaces — from 7-segment and LCD displays to High-End Capacitive Touch TFT screens — so every application gets the right balance of performance, cost and aesthetics.

The Capacitive Touch series goes a step further with Oktima Studio, an innovative development tool that lets you design and customize the user interface exactly as your application requires.

- Capacitive Touch TFT HMIs
- Capacitive Touch Development Tool
- LCD HMIs
- 7-segments HMIs

Capacitive Touch TFT HMIs

The Oktima Series HMIs brings one platform to every application: a common hardware and software architecture scaled across four formats, from compact to full operator control panels. IPS technology guarantees a clear, all-angle view, while integrated wireless communication — available in the rear-mounting version — keeps installation clean and stylish.



Oktima Series HMI - OKT 2.4"
Rear Mounting

The smallest interface of the range, for space-constrained machines.



Oktima Series HMI - OKT 4.3"
Rear Mounting

The standard interface for your product line



Oktima Series HMI - OKT 7"
Rear Mounting

Scalable interface for advanced, connected machines



Oktima Series HMI - OKT 10.1"
Rear Mounting

The interface for your most demanding platform

OKTIMA-SERIES HMI OKT 2.4"

Available during 2027

Human Machine Interface for electronic controllers Rear Panel Mounting

MAIN FEATURES

- 2.4", 320×240 capacitive TFT, IPS wide viewing angle
- Fully customizable interface with Oktima Studio
- Innovative rear mounting for greater flexibility across various panel thicknesses
- Onboard memory and RTC, USB log and alarm retrieval
- Embedded wireless connectivity, powered from the power unit



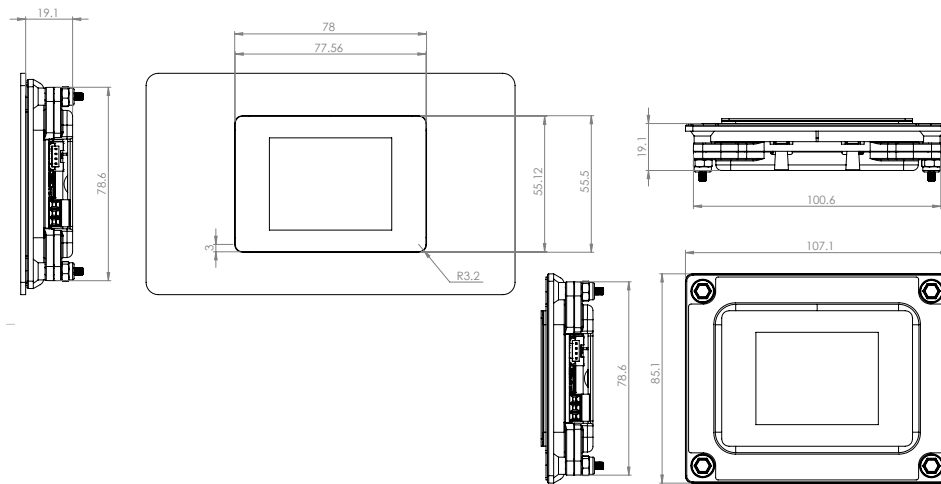
APPLICATIONS

Blast chillers, storage cabinets, Dough-retard provers, ice makers, control panels for refrigeration systems

Technical Data

Model	Standard	Conncted
Display		
Type	2.4" IPS (In-Plane Switching) – Full Viewing Angle	
Resolution	320 x 240 pixels (RGB)	
Active area	36.72 x 48.96 mm	
Colors	65k	
Brightness (cd/m²)	300	
Contrast Ratio	1500:1	
Backlight Type	LED	
Backlight Life Time	30.000hr	
Touch panel		
Type	Capacitive	
Enclosure		
Type	Plastic	
I/O Port		
USB Host(as-option)	1x USB 2.0 (Type-C) full speed	
Ethernet Port	N/A	
WiFi	N/A	WiFi 6 - 2.4GHz Wireless Gateway, Support 802.11 b/g/n/ax, 802.15.4, Supported services: MQTT, FTP, HTTP, WEB server, Modbus TCP, ..., Integrated antenna
Serial Port	1x RS485 port Support Modbus protocol for connecting to a network, ASCII / RTU selectable, Baud-rate, stop bit and parity programmable	
Technical characteristics		
Power supply	5/12-24 Vdc (model depending)	
Operating temperature	-10...60°C, 15...80%rH (not condensing)	
Storage temperature	-20...70°C, 15...80%rH (not condensing)	
Environmental Protection	IP65 (front) / IP20 (rear), with gasket	
Certificate		
CE	CE marked	
Available options		
1x configurable Analog input for NTC temperature sensor or digital input Built-in RTC and buzzer		

Dimensions



Mounting



- 4 screws - M3 type
- Plastic Flange with adhesive film (Adaptable for panel thickness from 0.8 to 2mm)

OKTIMA-SERIES HMI OKT 4.3"

Available during 2027

Human Machine Interface for electronic controllers Rear Panel Mounting

MAIN FEATURES

- 4.3", 480×272 capacitive TFT, IPS wide viewing angle
- Fully customizable interface with Oktima Studio
- Innovative rear mounting for greater flexibility across various panel thicknesses
- Onboard memory and RTC, USB log and alarm retrieval
- Embedded wireless connectivity, powered from the power unit



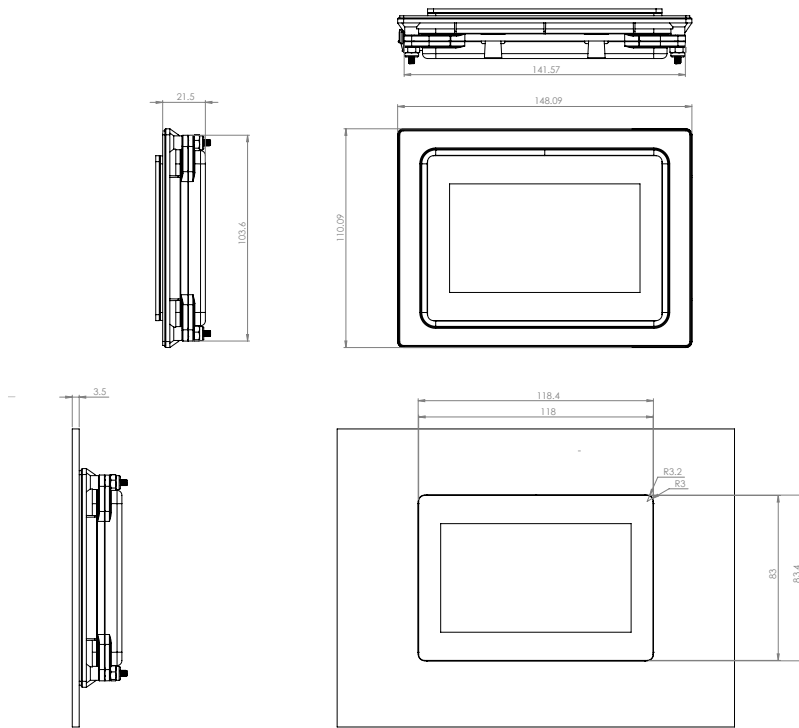
APPLICATIONS

Blast chillers, storage cabinets, Dough-retard provers, ice makers, control panels for refrigeration systems

Technical Data

Model	Standard	Connected
Display		
Type	4.3" IPS (In-Plane Switching) – Full Viewing Angle	
Resolution	480 x 272 pixels (RGB)	
Active area	53.86 x 95.04 mm	
Colors	16.7M	
Brightness (cd/m²)	560	
Contrast Ratio	800:1	
Backlight Type	LED	
Backlight Life Time	40.000hr	
Touch panel		
Type	Capacitive	
Enclosure		
Type	Plastic	
I/O Port		
USB Host(as-option)	1x USB 2.0 (Type-C) high speed	
Ethernet Port	N/A	
WiFi	N/A	WiFi 6 - 2.4GHz Wireless Gateway, Support 802.11 b/g/n/ax, 802.15.4, Supported services: MQTT, FTP, HTTP, WEB server, Modbus TCP, ..., Integrated antenna
Serial Port	2x RS485 port Support Modbus protocol for connecting to a network, ASCII / RTU selectable, Baud-rate, stop bit and parity programmable	
Technical characteristics		
Power supply	5/12-24 Vdc (model depending)	
Operating temperature	-10...60°C, 15...80%rH (not condensing)	
Storage temperature	-20...70°C, 15...80%rH (not condensing)	
Environmental Protection	IP65 (front) / IP20 (rear), with gasket	
Certificate		
CE	CE marked	
Available options		
1x configurable Analog input for NTC temperature sensor or digital input Built-in RTC and buzzer		

Dimensions



Mounting



- 4 screws – M3 type (M3x20)
- Plastic Flange with adhesive film (Adaptable for panel thickness from 0.8 to 3.5mm)

OKTIMA-SERIES HMI

OKT 7"

Available during 2027

Human Machine Interface for electronic controllers Rear Panel Mounting

MAIN FEATURES

- 7", 1024×600 capacitive TFT, IPS wide viewing angle
- Fully customizable interface with Oktima Studio
- Innovative rear mounting for greater flexibility across various panel thicknesses
- Onboard memory and RTC, USB log and alarm retrieval
- Embedded wireless connectivity and Ethernet port

APPLICATIONS

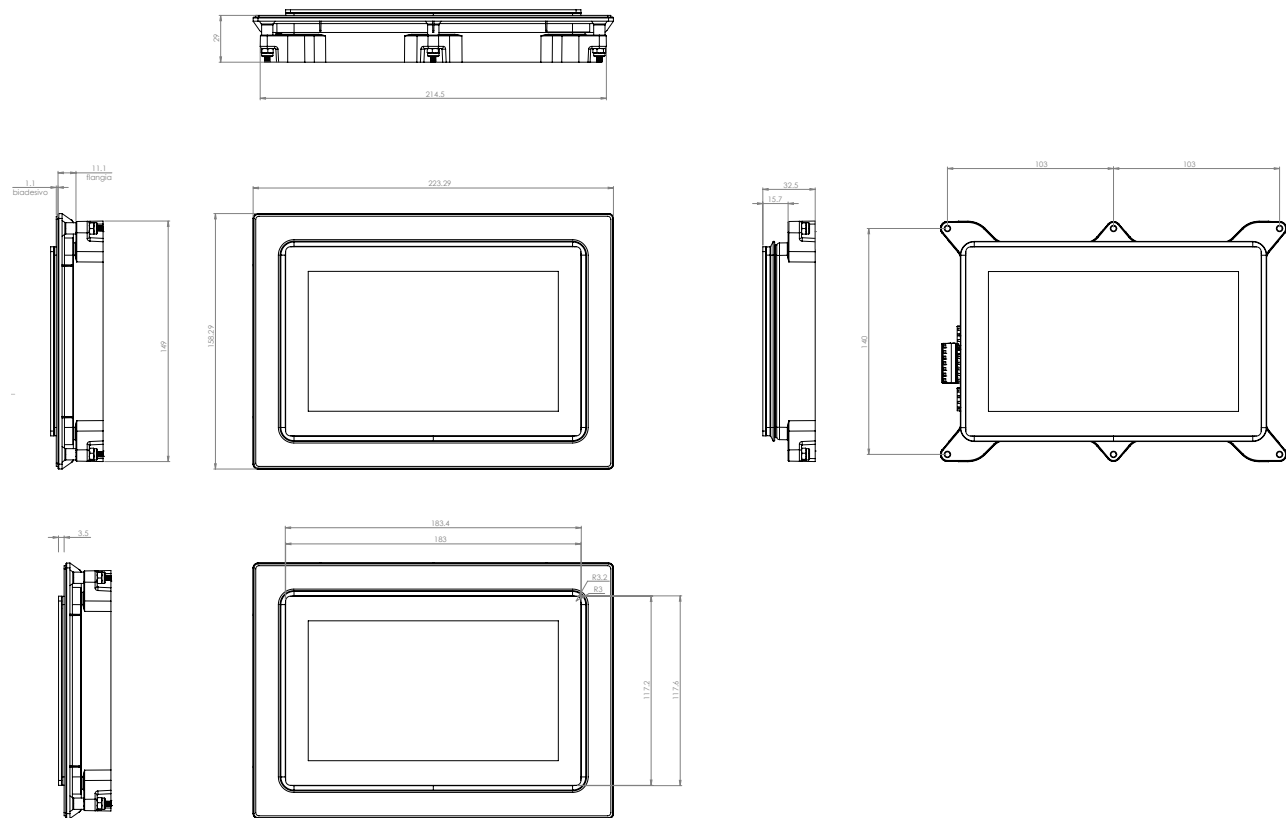
Blast chillers, storage cabinets, Dough-retard provers, ice makers, control panels for refrigeration systems



Technical Data

Model	Standard	Connected
Display		
Type	7" IPS (In-Plane Switching) – Full Viewing Angle	
Resolution	1024 x 600 pixels (RGB)	
Active area	85.92 x 154.21 mm	
Colors	16.7M	
Brightness (cd/m²)	600	
Contrast Ratio	800:1	
Backlight Type	LED	
Backlight Life Time	40.000hr	
Touch panel		
Type	Capacitive	
Enclosure		
Type	Plastic	
I/O Port		
USB Host	1x USB 2.0 (Type-C) high speed	
Ethernet Port	RJ45 10/100	
WiFi	N/A	WiFi 6 - 2.4GHz Wireless Gateway, Support 80211 b/g/n/ax, 80215 4, Supported services: MQTT, FTP, HTTP, WEB server, Modbus TCP, ..., Integrated antenna
Serial Port	2x RS485 port Support Modbus protocol for connecting to a network, ASCII / RTU selectable, Baud-rate, stop bit and parity programmable	
Technical characteristics		
Power supply	5/12-24 Vdc (model depending)	
Operating temperature	-10...60°C, 15...80%rH (not condensing)	
Storage temperature	-20...70°C, 15...80%rH (not condensing)	
Environmental Protection	IP65 (front) / IP20 (rear), with gasket	
Certificate		
CE	CE marked	
Available options		
1x configurable Analog input for NTC temperature sensor or digital input Built-in RTC and buzzer		

Dimensions



Mounting



- 6 screws – M3 type (M3x20)
- Plastic Flange with adhesive film (Adaptable for panel thickness from 0.8 to 3.5mm)

OKTIMA-SERIES HMI OKT 10.1"

Available during 2027

Human Machine Interface for electronic controllers Rear Panel Mounting

MAIN FEATURES

- 10.1", 1280×720 capacitive TFT, IPS wide viewing angle
- Fully customizable interface with Oktima Studio
- Innovative rear mounting for greater flexibility across various panel thicknesses
- Onboard memory and RTC, USB log and alarm retrieval
- Embedded wireless connectivity and Ethernet port

APPLICATIONS

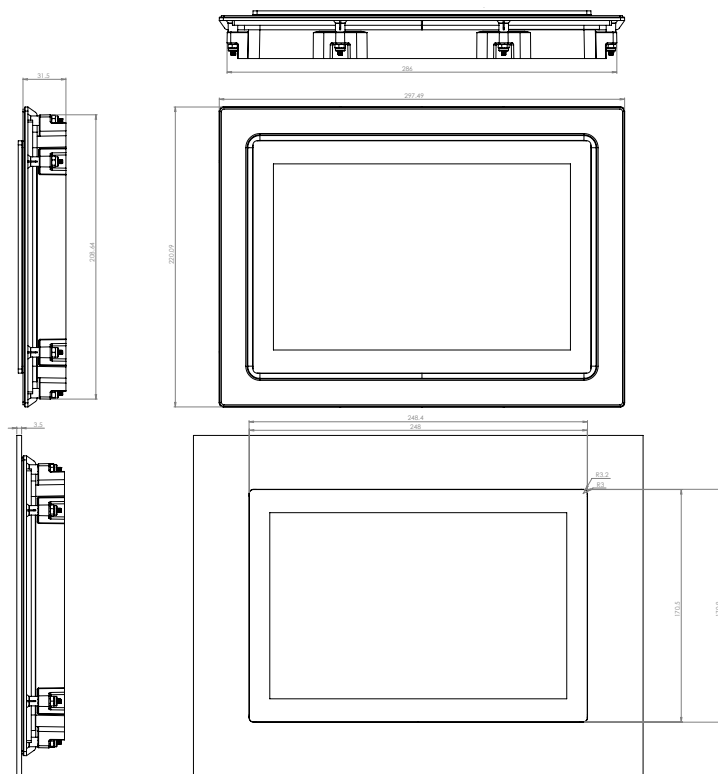
Blast chillers, storage cabinets, Dough-retard provers, ice makers, control panels for refrigeration systems



Technical Data

Model	Standard	Connected
Display		
Type	10.1" IPS (In-Plane Switching) – Full Viewing Angle	
Resolution	1280 x 800 pixels (RGB)	
Active area	135.60 x 216.96 mm	
Colors	16.7M	
Brightness (cd/m²)	800	
Contrast Ratio	1000:1	
Backlight Type	LED	
Backlight Life Time	40.000hr	
Touch panel		
Type	Capacitive	
Enclosure		
Type	Plastic	
I/O Port		
USB Host	1x USB 2.0 (Type-C) high speed	
Ethernet Port	RJ45 10/100	
WiFi	N/A	WiFi 6 - 2.4GHz Wireless Gateway, Support 802.11 b/g/n/ax, 802.15.4, Supported services: MQTT, FTP, HTTP, WEB server, Modbus TCP, ..., Integrated antenna or external SMA connector
Serial Port	2x RS485 port Support Modbus protocol for connecting to a network, ASCII / RTU selectable, Baud-rate, stop bit and parity programmable	
Technical characteristics		
Power supply	12-24 Vdc	
Operating temperature	-10...60°C, 15...80%rH (not condensing)	
Storage temperature	-20...70°C, 15...80%rH (not condensing)	
Environmental Protection	IP65 (front) / IP20 (rear), with gasket	
Certificate		
CE	CE marked	
Available options		
3x configurable Analog input for NTC temperature sensor or digital input Built-in RTC and buzzer		

Dimensions



Mounting



- 8 screws – M3 type (M3x25)
- Plastic Flange with adhesive film (Adaptable for panel thickness from 0.8 to 3.5mm)

Capacitive Touch – Development Tool

Behind every display is Oktima Studio, LAE's dedicated development environment for building fully custom, application-specific user interfaces.



Oktima Studio

UX/UI IDE for Capacitive Touch HMI's



Oktima Studio

From idea to binary. In hours
The revolution of MCU and OS
App development. The no-code IDE
for HMI, Control and IoT applications –
powered by AI, secured by RUST.

Everything you get with Oktima

- Agentic AI – your smart co-developer with voice or chat interaction
- Visual UI Editor with modern UI components library, widgets, templates, animations, customizable themes and styles
- Intuitive block based logic programming paradigm with library of pre-built logic blocks

Everything you gain with Oktima

- Accelerate Time-to-market from months to days
- AI agent fills UX, security and technical skill gaps
- Native enterprise level cyber-security
- Maximize ROI – no external consultants needed
- Future-proof and compliant – EU CRA, ISO 27001

Suitable for your industry

HVAC-R · FOOD SERVICE · MEDICAL DEVICES · SMART HOME AND BUILDING AUTOMATION and every embedded application you can imagine

One Environment, Every Tool Integrated.
All the tools you need, working together
seamlessly, supported by AI that fills
every skill gap.

- Visual UI Editor – Design professional interfaces without code
- Flow Visual Language – Draw your logic, don't code it. The ideal language for AI co-development
- Communication configurator – Seamless device integration
- Instant Emulator – Test everything, instantly
- Visual debugger – Follow your logic, step by step

5X

**Faster
Development**

100%

**Native
Performance**

0

**Lines
of Code**

∞

Possibilities



1

Design Visually

Create UI and logic using visual editors with AI support

2

Compile Native

Converts the project to Rust and compiles it with the runtime into a binary

3

Deploy Anywhere

Same project, any supported MCU/CPU/OS, no rewrites needed

Your Skills + AI = Superpowers

The integrated AI Agent doesn't just assist, it creates. Generate complete UIs from descriptions, build logic flows from requirements, translate to any language, and configure devices from datasheets.

Professional Security. Zero Complexity.

Built on Rust – the language trusted by critical infrastructure managers. Secure Boot, encrypted storage, and key management included. CRA compliant out of the box.

The Difference is Clear.

See how Oktima transforms every aspect of embedded development.

	Traditional IDE	Oktima Studio
Team Required	4-5 specialists	Domain expert + AI Agent
Time to Prototype	Weeks to months	Hours to days
UI Quality	Depends on UX budget	Professional by default
Security Implementation	Manual, error-prone	Built-in, Rust-powered
Hardware Change	Major rewrite	Recompile only
Regulatory Compliance	Expensive consulting	CRA-ready out of the box
Maintenance Burden	Growing tech debt	Minimal overhead
Learning Curve	Months of training	Days to productivity



LCD HMIs

LAE electronic LCD HMIs are designed for rear mounting, paired with a fully customizable adhesive overlay that adapts the interface to the look and layout of any application – giving OEMs a display that fits their machine, not the other way around.



D-Series LCD HMIs

LCD display with customizable overlay, for a clean, application-specific interface.

DU00

High contrast
LCD display

Dimensions	78 x 64 x 15 mm (W x H x D)
Panel cut-out	57 x 60 mm (W x H)
Front protection with external overlay	IP67
Ambient temperature	-10+50°C



Model	Features
DU00-02	With buzzer
DU00-03	Without buzzer

> In order to know MOQ per model and options available, please consult LAE or our local dealer.

7-segments HMIs

Entry-level 7-segment displays with mechanical or capacitive keypads, built for harsh environments and compatible with the LAE power unit range.



T-Series 7-segments HMIs

Capacitive touch keypad display, stylish and easy to clean.



D-Series 7-segments HMIs

Mechanical-key display, reliable in any environment.



TD5S

Capacitive-touch-buttons
LED display unit

Dimensions	77 x 35 x 13 mm (W x H x D)
Panel cut-out	71 x 29 mm (W x H)
Front protection	IP55
Ambient temperature	-10+50°C



DU5S

Mechanical-buttons
LED display unit

Dimensions	77 x 35 x 20 mm (W x H x D)
Panel cut-out	71 x 29 mm (W x H)
Front protection	IP55
Ambient temperature	-10+50°C

Model	Features
DU5S	Red LEDs
DU5S-BLU	Blue LEDs
TD5S-W	White LEDs

03 Monitoring system

LAE electronic enables supervision and monitoring systems by supplying IoT Gateways that connect directly to OEMs own cloud portal — no proprietary platform required.

From single shops to large retail chains, refrigerated warehouses to food production sites, and beyond into pharmaceutical, wine-making, marine, museum and healthcare applications, LAE electronic gateways bring commercial and industrial installations online, ready to be configured on the monitoring platform each customer already uses.

- Connectivity devices

Connectivity devices

IoT Gateways bring connectivity to every installation, with Wi-Fi and/or Ethernet communication built in for flexible integration into any network setup. Rather than locking OEMs into a proprietary cloud, LAE Electronic gateways can be adapted to integrate with the leading cloud platforms on the market — so each customer can choose the monitoring solution that best fits their business, their infrastructure and their end users.



GTW Series Gateway IOT

Standalone Wi-Fi/Ethernet gateway for secure cloud connectivity.



WFM Series Gateway IOT

Compact Wi-Fi module for direct, plug-in cloud connectivity.

GTW-03

For IoT communication

Screw Mounting

MAIN FEATURES

- WiFi: IEEE 802.11 b/g/n
- 10/100 Ethernet interface (optional)
- USB Type A
- RS485
- Power supply: 10 to 30 Vdc, 200mA

APPLICATIONS

Air conditioners, heating systems, commercial and professional refrigerators, blast chillers and freezers, dough-retard provers, heating/ cooling combi catering machines, professional ovens, ice makers, transport refrigeration, high-end domestic refrigerators.

The GTW-03 is an IoT gateway equipped with memory and communication ports, specifically designed to securely manage IoT communications.

Easy-to-install: connects the GTW-03 to the Modbus port of the LAE controller, which is recognised automatically.

Easy-to-configure: via a Smartphone or PC, connect to the web page of the GTW-03 and connect it to your WiFi Access Point or to your cabled network.

Adaptable to third party IoT service providers.



Technical data

Core	Cortex-M4 @168MHz
Memory	4MB NOR FLASH
OS	RTOS
Power supply	10 to 26 Vdc, 150mA
Size	138 x 64 x 31 mm
Internal web server for configuration and diagnosis	

WFM-1x

WiFi module for IoT Communication

The WFM-1 module allows an LAE controller equipped with TTL (WFM-1 version) or RS485 (WFM-1B version) serial port to connect to the cloud.

- Bidirectional connectivity: send data to the cloud for storage and monitoring, and receive commands or configurations.
- Flexible user-friendly configuration: set up parameters via PC.
- Reliable technology: Wi-Fi 6 ensures stable and efficient connections.



How to order WFM-1x

Model	Version	Customisations	Description
WFM-1			Series, Model and Mounting
	A		TTL version
	B		RS485 version
		-...N	Customization wit LAE Alpha-numeric code

Technical data

CPU	ESP32-C6
Core	32-bit RISC-V single-core microprocessor 160Mhz
Memory	8MB FLASH
OS	RTOS
WiFi	IEEE 802.11ax 2.4 GHz Wi-Fi 6 (Fully compatible with IEEE 802.11b/g/n protocol)
Serial Port	TTL/RS485
Power supply	5 Vdc from an LAE controller
Size	67.5 x 35 x 15 mm

Approvals

FCC	2AC7Z-ESPC6WROOM1
IC	21098-ESPC6WROOM1
KR	R-C-es5-ESP32C6WROOM1
CN	24J31H8DC601

04

Probes and transducers

LAE electronic offers a complete range of probes and transducers — Resistive temperature sensors, Humidity sensors and Pressure sensors transducers — engineered to give installers and OEMs the right level of accuracy for every application, from refrigeration and food retail to air conditioning and general purpose systems.

- Resistive temperature sensors
- Humidity sensors
- Pressure sensors transducers

NTC2K & NTC10K

Temperature probes



SN2B

SN2BxxPx

Sensor type	NTC2K, 2000Ω @ 25°C
Range	-40+120°C
Accuracy	±0.3°C @ 25°C
Sheath	Ø 6 x 29 mm; TPE
Cable	2 wires x 0.35 mm ² ; -40+120°C; TPE; loose leads
Protection	IP67

Standard Versions

SN2B15P1, P2	1.5 m
SN2B20P1, P2	2 m
SN2B25P1, P2	2.5 m
SN2B30P1, P2, P3	3 m
SN2B50P1	5 m



SN4BxxP1, P2



SN4BxxP2-B



SN4BxxP3-Y



SN4BxxP4-S

SN4BxxPx

Sensor type	NTC10K, 10000Ω @ 25°C
Range	-40+120°C
Accuracy	±0.3°C @ 25°C
Sheath	Ø 6 x 29 mm; TPE
Cable	2 wires x 0.35 mm ² ; -40+120°C; TPE; loose leads
Protection	IP67

Standard Versions

SN4B10P1	1 m
SN4B15P1, P2	1.5 m
SN4B20P1, P2	2 m
SN4B25P1, P2	2.5 m
SN4B30P1, P2	3 m
SN4B35P1, P2	3.5 m
SN4B40P1	4 m
SN4B50P1, P2	5 m
SN4B70P1	7 m

Pt100 & thermocouples

Temperature probes

QP1NxxP-X

Sensor Type	Pt100 class B
Range	-40+110°C
Precision	±0.3°C @ 0°C
Tube	Ø 6 x 40 mm; AISI 304 steel
Cable	3 wires x 0.25mm ² ; thermoplastic rubber cable Ø 3.4 mm; loose leads
Protection	IP67

Standard Versions

QP1N20P-X	2 m
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MOQ: 10 pieces

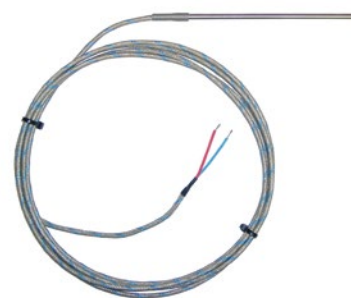
SPTO

Sensor Type	Pt100 class "B" (DIN43760), 100Ω @ 0°C
Range	0+400°C
Precision	±0.3°C or ±0.5°C (in the worst case scenario)
Response time	10 seconds in water
Sheath	Ø 6 x 160 mm; stainless steel AISI316
Cable	3 wires x 0.24 mm ² ; L = 100 cm, fiber glass, loose leads
Protection	IP65



TJ.ECO

Sensor Type	J thermocouple
Range	0+450°C
Precision	±2.5°C or ±0.75% (in the worst case scenario)
Response time	10 seconds in water
Sheath	Ø 6 x 160 mm; stainless steel AISI316
Cable	2 wires x 0.50 mm ² ; L = 300 cm, fiber glass, loose leads
Protection	IP65



TK.ECO

Sensor Type	K thermocouple
Range	0+600°C
Precision	±2.5°C or ±0.75% (in the worst case scenario)
Response time	approx. 2 seconds in water
Sheath	Ø 4.5 x 160 mm; INCONEL600
Cable	2 wires x 0.24 mm ² ; L = 300 cm, fiber glass, loose leads
Protection	IP65



HT2WAD

Humidity transmitter



Technical data

Sensor type	capacitive
Output signal	0÷1Vdc
Range	0%÷100% r.H.
Accuracy	±2%r.H. (10%÷90%r.H.)
Gasket	Ø14 x 40 mm
Protection	IP65 (electronics)
Operating temperature	0÷75°C (sensor) / 0÷50°C (electronics)
Dimensions of the enclosure	110 x 53 x 75 mm (electronics)
Power supply	12Vdc, 0.2W

PGT35

Pressure transmitter



Technical data

Sensor type	Piezoresistive gauge
Output	4÷20mA
Range	-0.5÷35.0 bar
Accuracy	max±1%FS (0÷50°C)
Gasket	Ø 17 x 58 mm
Connections	mPm connector
Pressure port	7/16"-20UNF male, steel AISI 316L
Protection	IP65
Ambient temperature	-40÷100°C
Power supply	8÷32Vdc





Corporate

LAE Electronic is an Italian technology partner specialized in electronic control and HMI solutions for HVAC-R and cooking and bakery systems. By combining deep application know-how, electronics engineering and embedded software expertise, we support OEMs and distribution partners with reliable, efficient and scalable control platforms — as a long-term partner accompanying every project from concept and industrialization to market deployment and full product lifecycle. Our purpose is simple: we enable machines to become smarter, safer and more efficient.

Applications

LAE Electronic solutions create value across three key markets.



Refrigeration

In Refrigeration, we support food storage and distribution — from food retail and food service to large-scale distribution — keeping products safe and fresh at every stage of the cold chain.



HVAC

In HVAC, we enable heating, air conditioning and ventilation for both residential and industrial sectors, where reliability and efficiency directly translate into lower running costs.



Cooking & Bakery

In Cooking & Bakery, our controls and HMIs power ovens and cooking lines for professional kitchens and industrial baking, helping equipment manufacturers deliver consistent, controllable results at scale.

Technologies

The engineering
behind every LAE solution

Every LAE product shares the same technological DNA. Six pillars, refined over 50 years, that turn deep application knowledge into control solutions our OEM partners can trust.

01 – Application Expertise

Deep HVAC/R and Cooking & Bakery know-how – not generic control, but advanced algorithms built for real OEM applications.

02 – Full In-House Design

Complete electronic engineering, analog and digital, entirely owned and controlled in-house.

03 – HMI Hardware & Software

We design human-machine interfaces from the ground up – hardware and software – not integrate someone else's.

04 – Industrialization & Manufacturing

From design to finished product: evolved production processes, quality controlled at every step.

05 – Communication & Connectivity

Modbus, RS485, IoT and beyond – engineered into the product, not simply added on.

Customized solutions

**Engineered to perform.
Built to last.**

Beyond our standard product range, LAE Electronic develops customized solutions — designed together with the customer or built around their specific requirements.

Our platforms are available in compact or split versions, with different installation types (front-panel or rear-panel, for mechanical and aesthetic integration into the unit), different display technologies (digit, monochrome LCD graphic or full-color TFT touch-screen) and different interfaces (mechanical or capacitive keys), so design and usability are never a compromise.

This is reflected in our business model: from ready-to-use Standard products, to Configurable solutions built on predefined HW/SW options, up to Full Custom platforms developed end-to-end for a specific customer need.





Control & HMI solutions for HVAC-R

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