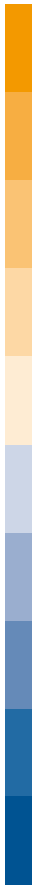


REFRIGERATION CATALOGUE 2016



INDEX

REFRIGERATION	11
THERMOSTATS AND CONTROLLERS	13
TLE20	16
Z30	18
Z31	20
Z31A	20
Z31E	20
Z31Y	20
Y39	22
Y39C	22
Y39E	22
Y33	24
W09	26
W09Y	26
W09C	26
X33H	28
X34	30
E51	32
E51A	32
TLZ12P	34
TLY25	36
TLY26	36
TLY29	36
TLY35	38
TLZ35	40
TLW24	42
TLB29	44
TLB30	46
TLB55	46
BSLB4	48
TLBTA	50
TLBCA	50
B05	52
P03	52
P05	52

INDICATORS	55
Z31V	58
K31V	60
K38V	60
K48V	62
K85V	62
E51V	64
TLCD	66
TVRY	68
X31L	70
SPECIAL CONTROLLERS AND "CUSTOM"	73
DIFFERENTIAL CONTROLLERS: K31D, Y39D	76
DIFFERENTIAL CONTROLLERS: TLS35, W09D	78
MULTISTEP CONTROLLER: TLK31C	80
CONTROLLERS FOR PELTIER CELLS: TLK33	82
MILK TANK CONTROLLERS: TLJ29M, TLJ35M	84
PAC SYSTEMS	87
M81	90
MP02	92
MP-D1	94
MP-D2	94
MP-D4	94
CU02	96
OPENPCS	98
PRE-PROGRAMMED SYSTEMS	101
BREWERY PAC	102
INDUSTRIAL AUTOMATION	105
PLC AND OPERATOR PANELS	107
P04	110
OPMT	112
OPMT	114
P01	116
P30	116
P32	116

ACQUISITION AND DATA RECORDING	119
I/O MODULES	121
D7	124
D8	124
D9	124
ANALOGUE I/O	126
DIGITAL I/O	128
DIGITAL I/O	130
TDA	130
SUPERVISION	135
AUTOLINK	138
DX	140
DY	140
ACCESSORIES	143
ACCESSORIES	145
A01	146
A30	148
APS2 ALNDR	150
APS2 ALEDR	150
APS2 ATOPEH	150
APS2 MODEM	150
BOX-AR	151
CAL	151
GUAR	151
TAPPO	152
TCTR	152
TLCOV	152
TR-AMP	153
ZOC	153
THERMOELEMENTS	154



Manufacturing unit, Manaus (Brazil).



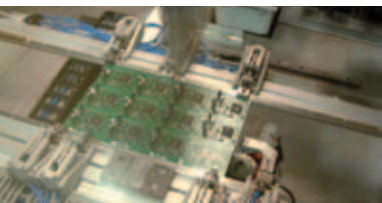
Headquarters, offices, R&D, Manufacturing unit, Vigevano (Italy).

COMPANY PROFILE

Ascon Tecnologic is an Italian company that develops, manufactures and commercializes a complete range of products for the regulation and automation of machinery and systems in the manufacturing and processing sectors as well as that of industrial and commercial refrigeration.

The group Ascon Tecnologic has more than 200 employees and, in its productive plants, realizes every year over a million of instruments.

Ascon Tecnologic operates in over 50 countries with 6 branches, its own agents and a distribution network, offering clients sales and after-sales assistance.



QUALITY CERTIFICATION / SAFETY AND APPROVALS

Ascon Tecnologic S.r.l. has obtained:

- the certification of "Quality System" in conformity to UNI EN ISO 9001:2008 released by the corporate certifier Det Norske Veritas Italy S.r.l.
- the "Management System Certificate" in conformity to OHSAS 18001:2007 released by the corporate certifier DNV GL Business Assurance Italia S.r.l.

The instruments are developed for the use in conformity to the actual compliance, as concern the CE mark according to Directives 2006/95/CE (Low Voltage) and 2004/108/CE (EMC).

The applicable rules, according to the model, are:

Safety

- EN61010-1
- EN60730-1
- UL873 for use conforming as foreseen by Underwriters Laboratory Inc. (only for approved instruments).

EMC

EN61326-1

Remarks: please make reference to the documentation and the individual certifications for details of the applicable norms.





REFRIGERATION

The *control*,
at any
temperature





THERMOSTATS AND CONTROLLERS



Cooling is cool

A complete range of products dedicated to the refrigeration both commercial and industrial: from the simple thermostat to the refrigerating unit controller.

THERMOSTATS AND CONTROLLERS

FEATURES		TLE20	Z30	Z31A	Z31	Z31E	Z31Y	Y39	Y39C	Y39E	Y33	W09
Dimensions (mm)	78 x 35	•	•	•	•	•	•	•	•	•	•	
	68 x 35											
	75 x 122											•
	70 x 84											
	4 DIN rail module											
	185 x 38											
	92 x 92											
96 x 50												
135 x 97												
Single display		•	•	•	•	•	•	•	•	•	•	•
Dual display												
Digit		2 1/2	3	3	3	3	3	3	3	3	3	3
"Sensitive Touch" keyboard			•	•	•	•	•	•	•	•	•	
Input	NTC		•									
	PTC-NTC	•		•	•	•	•					•
	PTC-NTC-4... 20 mA											
	PTC-NTC-PT1000							•	•	•	•	
	NTC-PT1000											
Relay outputs			1			1	1	1	1	1	1	1
Power supply	12 Vac/Vdc	•		•	•	•	•	•	•	•	•	
	12... 24 Vac/Vdc			•	•	•	•	•	•	•	•	
	24 Vac/Vdc			•	•	•	•	•	•	•	•	
	100... 240 Vac			•	•	•	•	•	•	•	•	•
	115Vac or 230 Vac	•	•									•
Control	ON/OFF	•	•	•	•	•	•	•	•	•	•	•
ENERGY SAVING functions						•				•	•	
Defrosting control at intervals time by stopping compressor		•	•		•							•
Defrosting control at intervals time, at reaching temperature by stopping compressor, by means of electrical heating or hot gas/reverse cycle						•	•	•	•	•	•	
REAL TIME CLOCK function									•			
HACCP function												
RS485 on board												
CE certification		•	•	•	•	•	•	•	•	•	•	•
UL approval				•	•	•	•	•	•	•		
ENEC approval (with "Sensitive Touch" keyboard only)				•	•	•	•	•	•			

(*) B05 has no visualization unless connected to external displays P03 or P05.

	W09Y	W09C	X33H	X34	E51A	E51	TLZ12P	TLY25	TLY26	TLY29	TLY35	TLZ35	TLW24	TLB29	TLB30	TLB55	B05
			•	•	•	•	•	•	•	•							
	•	•															
											•	•					
													•				•
	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•
			•														
	3	3	4	3	3	3	4	3	3	3	4	4	4	2	2	2	(*)
				•										•	•	•	
	•	•			•	•		•	•	•	•	•		•	•	•	
			•	•									•				•
	1	1		2+2			•										
	3	3	4	4	1	1	2	4	4	3	4	2	4	3	4	4	4
					•	•	•	•	•	•	•	•					
	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
				•		•											
	•	•	•	•				•	•	•	•	•		•	•	•	•
		•		•				•	•	•	•	•					
				•													
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
				•			•	•	•	•	•	•	•	•	•	•	•

TLE20

- THERMOSTATS FOR REFRIGERATING UNITS
- 20A RELAY OUTPUT (2HP)



FEATURES

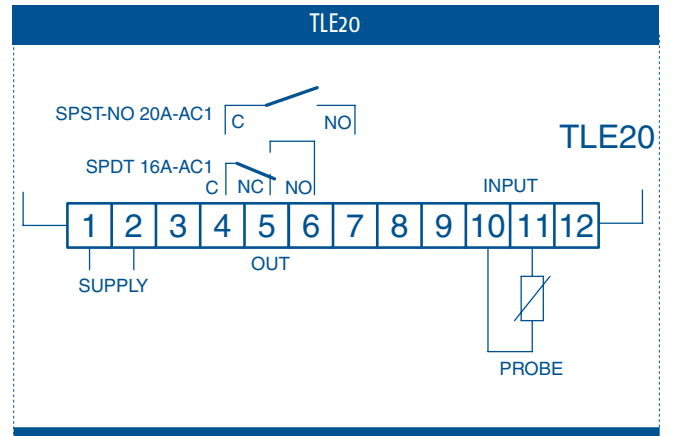
DISPLAY	TLE20
Single	2 1/2 red digit, h 14 mm
INPUTS	
Two	PTC KTY81-121 (990Ω at 25°C) -50...150 °C (-58...199°F) or NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)
Digital input	1 digital input for free voltage contacts as alternative to input 2
Accuracy	± 0.5 % fs + 1 digit
OUTPUTS	
One	OUT1: Relay SPDT-NO (16A-AC1, 6A-AC3 250 Vac 1HP, 1/2HP 125 Vac) or SPST-NO (20A-AC1, AC3 12A-277 Vac, 2HP 277 Vac, 1HP 125 Vac); EN 61810: 16 (9) A - EN 60730: 10 (4) A UL 60730: 12 A Res., 30 LRA, 5 FLA
Relay operations	50000 operations
FUNCTIONAL	
Control	ON/OFF
Defrosting control	At interval time by stopping compressor
GENERAL	
Power supply	12 Vac/Vdc, 115 Vac, 230 Vac ±10% (50/60 Hz)
Power consumption	2 VA approx.
Dimensions / Weight	78 x 35 mm - depth 64 mm / 150 g approx.
Keyboard	Mechanical
Connections	Screw terminal block 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN60730-2-7, EN 60730-2-9)

HOW TO ORDER

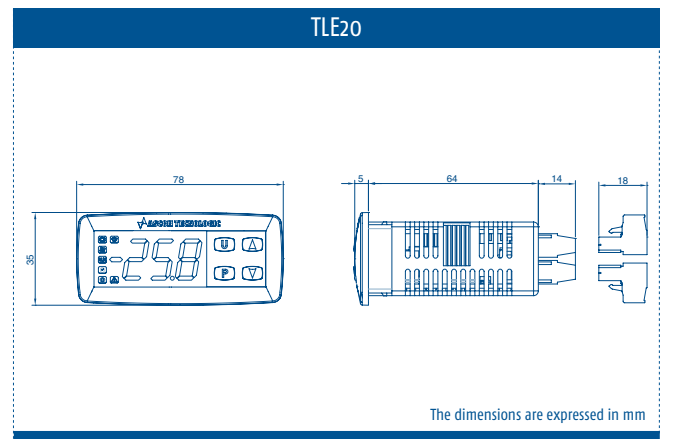
To compose the part number, pls. choose one of the option for each variable

TLE20	CODE
POWER SUPPLY	
115 Vac	C
230 Vac	D
12 Vac/Vdc	F
OUT 1	
Relay SPST NO-20A-2HP	H
Relay SPST-16A	S
CONNECTION	
Connector for programming key A01	K


CONNECTIONS



DIMENSIONS



Z30

- THERMOSTATS AND CONTROLLERS FOR REFRIGERATING UNITS
- SENSITIVE-TOUCH KEYBOARD
- ENERGY SAVING FUNCTIONS 
- REDUCED DEPTH



FEATURES

DISPLAY	Z30
Single	3 red or blue digit, h 15.5 mm
INPUTS	
Two	NTC 103AT-2 (10k Ω at 25°C) -50... +109°C (-58... +228°F)
Digital input	1 digital input for free voltage contacts as alternative to input 2
Accuracy	$\pm 0.5\%$ fs + 1 digit
OUTPUTS	
One	OUT1: Relay SPST-NO (16A - 1HP 250V, 1/2HP 125 Vac); EN 61810: 16 (9) A - EN 60730: 10 (4) A UL 60730: 12 A Res., 30 LRA, 5 FLA
Relay operations	100000 operations
FUNCTIONAL	
Control	ON/OFF
Defrosting control	At interval time by stopping compressor
Energy Saving functions	Available
GENERAL	
Power supply	115 Vac, 230 Vac $\pm 10\%$ (50/60 Hz)
Power consumption	2 VA approx.
Dimensions / Weight	78 x 35 mm - depth 34 mm or 42.2 mm with plug-in terminals / 105 g approx.
Keyboard	Mechanical or "Sensitive Touch"
Connections	Screw terminal block 1.5 and 2.5 mm ² or plug-in connector with screw terminals 1.5 and 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9). Regulation 37/2005/CE (EN13485 air, S, A, 2, - 50°C +90°C wheter used with NTC 103AT11 probe).

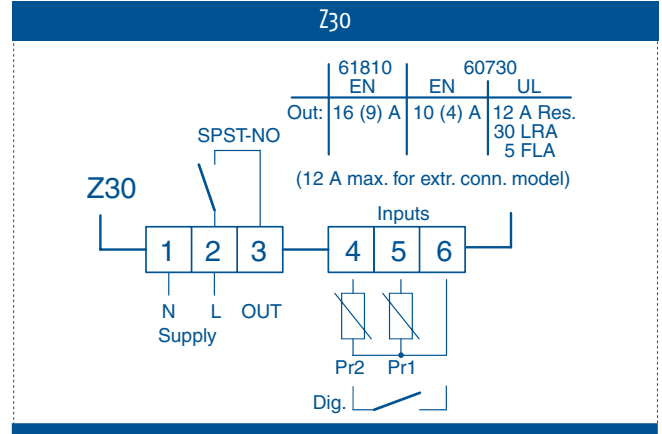
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

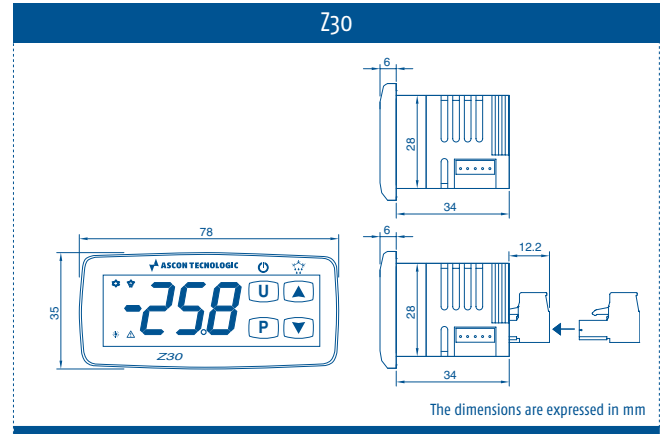
Z30	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
115 Vac	C
230 Vac	D
OUT 1	
Relay SPST NO-16A-AC1	R
CONNECTION	
Plug-in screw type	E
Plug-in screw type, fix part only	N
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-

(*) Capacitive Touch screen keyboard

CONNECTIONS



DIMENSIONS



Z31

- THERMOSTATS AND CONTROLLERS FOR REFRIGERATING UNITS
- SENSITIVE-TOUCH KEYBOARD
- ENERGY SAVING FUNCTIONS 



FEATURES

DISPLAY	Z31A	Z31	Z31E	Z31Y
Single	3 red or blue digit, h 15.5 mm			
INPUTS				
One (Z31, Z31A) or Two (Z31E, Z31Y)	PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)		2x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 2x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)	
Digital input	--		1 digital input for free voltage contacts as alternative to input 2	
Accuracy	± 0.5 % fs + 1 digit			
OUTPUTS				
One (Z31, Z31A) or Two (Z31E, Z31Y)	OUT1: Relay SPDT or SPST-NO (16A - 1HP 250V, 1/2HP 125 Vac); EN 61810: 16 (9) A - EN 60730: 10 (4) A UL 60730: 12 A Res., 30 LRA, 5 FLA 12 A max. for plug-in version		Up to 2 relays. OUT1: SPDT or SPST-NO (16A - 1HP 250V, 1/2HP 125 Vac); EN 61810: 16 (9) A - EN 60730: 10 (4) A - UL 60730: 12 A Res., 30 LRA, 5 FLA OUT2: SPDT (8A - 1/2 HP 250 Vac, 1/3 HP 125 Vac); EN 61810: 8 (3) A - EN 60730: 6 (4) A - UL 60730: 6 A Res. 12 A max. for plug-in version	
Relay operations	100000 operations			
FUNCTIONAL				
Control	ON/OFF			
Acoustic alarm	Internal Buzzer (optional)			
Defrosting control	--	At interval time by stopping compressor	At intervals time, at reaching temperature by stopping compressor, by electrical heating or hot gas/reverse cycle	
Energy Saving functions	--	--	Available	--
Serial communication	TTL Modbus, or RS485 by means of the external module A30 (see "Accessories" section)			
Remote display	By means of module TVRY (see "Indicators" section)			
GENERAL				
Power supply	12 Vac/Vdc, 12...24 Vac/Vdc, 100...240 Vac ±10% (50/60 Hz)			
Power consumption	4 VA approx.			
Dimensions / Weight	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals / 120 g approx.			
Keyboard	Mechanical or "Sensitive Touch"			
Connections	Screw terminal block 2.5 mm ² or plug-in connector with screw terminals 2.5 mm ²			
Mounting	Flush in panel in 71 x 29 mm hole			
Front protection degree	IP65, mounted in panel with gasket			
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)			
Operating humidity	30... 95 RH% without condensation			
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9). Regulation 37/2005/CE (EN13485 air, S, A, 2, - 50°C +90°C wheter used with NTC 103AT11 probe).			

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

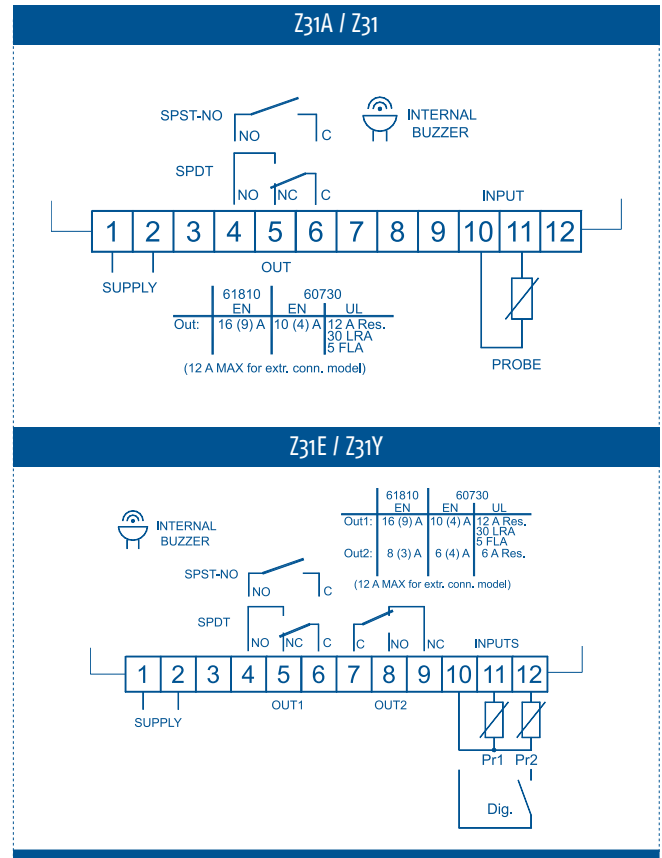
Z31A / Z31	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
12 Vac/Vdc	F
12... 24 Vac/Vdc	G
100... 240 Vac	H
OUT 1	
Relay SPDT 16A-AC1	S
Relay SPST NO-16A-AC1	R
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTION	
Plug-in screw type	E
Plug-in screw type, fix part only	N
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-

(*) Capacitive Touch screen keyboard

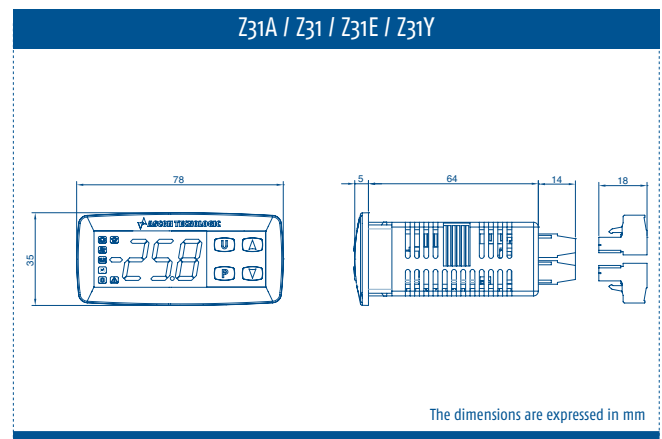
Z31E / Z31Y	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
12 Vac/Vdc	F
12... 24 Vac/Vdc	G
100... 240 Vac	H
OUT 1	
Relay SPDT 16A-AC1	S
Relay SPST NO-16A-AC1	R
OUT 2	
Relay SPDT 5A-AC1	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTION	
Plug-in screw type	E
Plug-in screw type, fix part only	N
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-

(*) Capacitive Touch screen keyboard

CONNECTIONS



DIMENSIONS



THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS


PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

Y39

- CONTROLLERS FOR REFRIGERATING UNITS
- SENSITIVE-TOUCH KEYBOARD
- ENERGY SAVING FUNCTIONS 
- UP TO 3 INPUTS AND 3 OUTPUTS



FEATURES

DISPLAY	Y39	Y39C	Y39E
Single	3 red or blue digit, h 15.5 mm		
INPUTS			
Two (Y39E) or Three (Y39, Y39C)	3x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 3x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)	3x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 3x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F) or 3x Pt1000 (1000Ω at 0°C) -99.9... +500°C (-148... +932°F)	2x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 2x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)
Digital input	1 digital input for free voltage contacts (as alternative to input 3 for Y39 ed Y39C)		
Accuracy	± 0.5 % fs + 1 digit		
OUTPUTS			
Up to three	OUT1: Relay SPST-NO (16A - 1HP 250V, 1/2HP 125 Vac); EN 61810: 16 (9) A - EN 60730: 10 (4) A - UL 60730: 12 A Res., 30 LRA, 5 FLA OUT2: Relay SPDT (8A, 1/2HP 250Vac, 1/3HP 125Vac); EN 61810: 8 (3) A - EN 60730: 4 (4) A - UL 60730: 4 A Res. OUT3: Relay SPST-NO (5A - 1/8HP 250V, 1/10HP 125 Vac); EN 61810: 5 (2) A - EN 60730: 2 (2) A - UL 60730: 2 A Res. 16A max.(for plug-in version) for common relay (term. 1)		
Relay operations	100000 operations		
FUNCTIONAL			
Control	ON/OFF		
Acoustic alarm	Internal Buzzer (optional)		
Defrosting control	At intervals time, at reaching temperature by stopping compressor, by electrical heating or hot gas/reverse cycle		
Energy Saving functions	--	Internal clock to manage defrosting at programmed times	Available
Real time clock	--	Internal clock to manage defrosting at programmed times	--
Serial communication	TTL Modubus, or RS485 by means of the external module A30 (see "Accessories" section)		
Remote display	By means of module TVRY (see "Indicators" section)		
GENERAL			
Power supply	12 Vac/Vdc, 12...24 Vac/Vdc, 100...240 Vac ±10% (50/60 Hz)		
Power consumption	4 VA approx.		
Dimensions / Weight	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals / 120 g approx.		
Keyboard	Mechanical or "Sensitive Touch"		
Connections	Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²		
Mounting	Flush in panel in 71 x 29 mm hole		
Front protection degree	IP65, mounted in panel with gasket		
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)		
Operating humidity	30... 95 RH% without condensation		
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9). Regulation 37/2005/CE (EN13485 air, S, A, 2, - 50°C +90°C wheter used with NTC 103AT11 probe)		

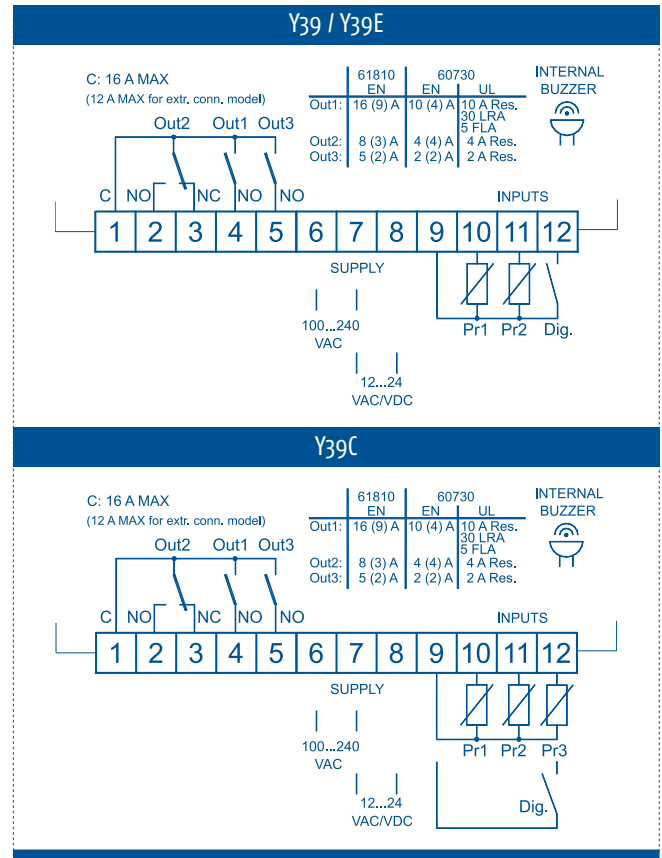
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

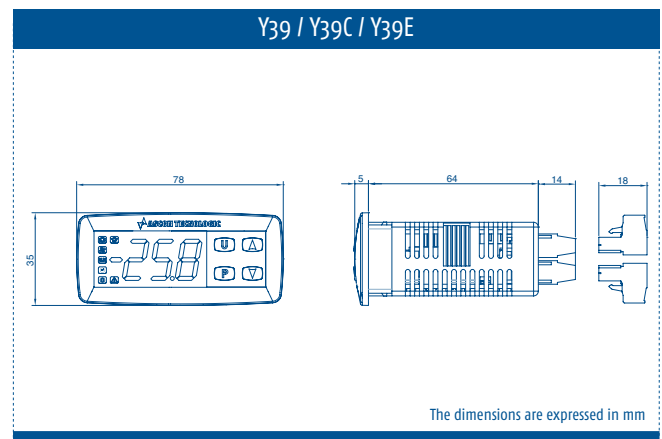
Y39 / Y39C / Y39E	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
12 Vac/Vdc	F
12... 24 Vac/Vdc	G
100... 240 Vac	H
OUT 1	
Relay SPDT 16A-AC1	S
Relay SPST NO-16A-AC1	R
OUT 2	
Relay SPDT 5A-AC1	R
Not available	-
OUT 3	
Relay SPDT 5A-AC1	R
Non prevista	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTION	
Plug-in screw type	E
Plug-in screw type, fix part only	N
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-

(*) Capacitive Touch screen keyboard


CONNECTIONS



DIMENSIONS



Y33

- CONTROLLERS FOR REFRIGERATING UNITS
- SENSITIVE-TOUCH KEYBOARD
- ENERGY SAVING FUNCTIONS 
- RELAY 30A 2HP



FEATURES

DISPLAY	
Single	Y33 3 red or blue digit, h 15.5 mm
INPUTS	
Three	3x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 3x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F) or 3x Pt1000 (1000Ω at 0°C) -99.9... +500°C (-148... +932°F)
Digital input	1 digital input for free voltage contacts as alternative to input 3
Accuracy	± 0.5 % fs + 1 digit
OUTPUTS	
Up to three	OUT1: Relay SPST-NO (30A 2HP 250V, 1HP 125 Vac); EN 61810: 30 (15) A - EN 60730: 14 (14) A - - UL 60730: 14 A Res., 96 LRA, 16 FLA OUT2: Relay SPDT (8A, 1/2HP 250Vac, 1/3HP 125Vac); EN 61810: 8 (3) A - EN 60730: 8 (4) A - UL 60730: 10 A Res. OUT3: Relay SPST-NO (5A - 1/10HP 125/250 Vac); EN 61810: 5 (1) A - EN 60730: 2 (1) A - UL 60730: 2 A Gen. use 16A max.(12A for plug-in version) for common relay 1 and 3 (term. 3)
Relay operations	100000 operations
FUNCTIONAL	
Control	ON/OFF
Acoustic alarm	Internal Buzzer (optional)
Defrosting control	At intervals time, at reaching temperature by stopping compressor, by electrical heating or hot gas/reverse cycle
Energy Saving functions	Available
GENERAL	
Power supply	12... 24 Vac/Vdc, 115 Vac, 230 Vac ±10% (50/60 Hz)
Power consumption	3.5 VA approx.
Dimensions / Weight	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals / 190 g approx.
Keyboard	Mechanical or "Sensitive Touch"
Connections	Screw terminal block 2.5 mm ² or plug-in connector with screw terminals 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9). Regulation 37/2005/CE (EN13485 air, S, A, 2,- 50°C +90°C wheter used with NTC 103AT11 probe)

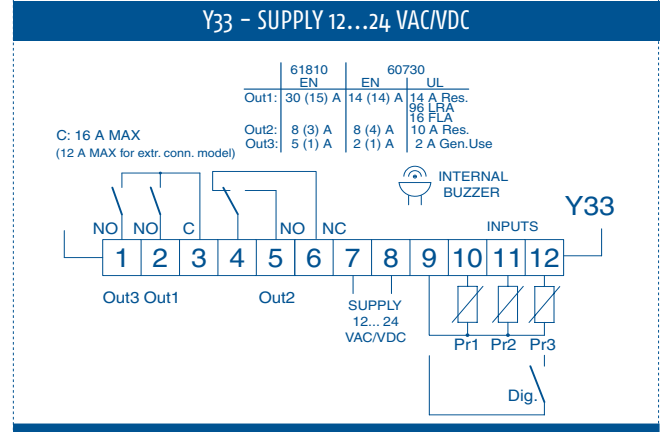
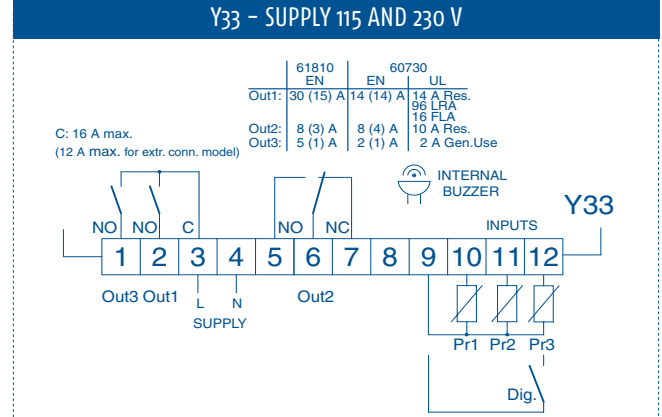
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

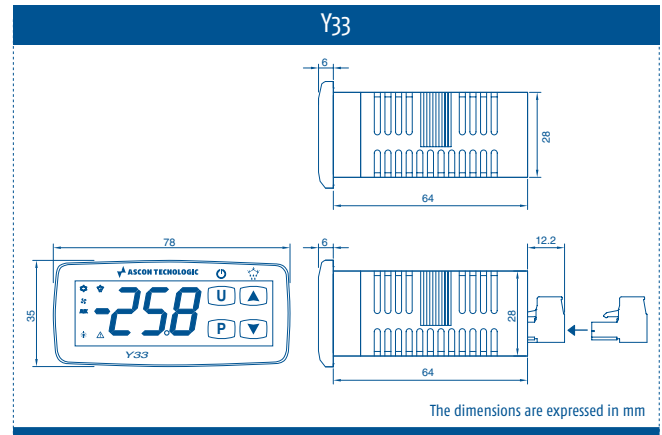
Y33	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
12... 24 Vac/Vdc	G
115 Vac	C
230 Vac	D
OUT 1	
Relay SPST-NO 30A	R
OUT 2	
Relay SPDT 8A-AC1	R
Not available	-
OUT 3	
Relay SPST 5A-AC1	R
Non prevista	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTION	
Plug-in screw type	E
Plug-in screw type, fix part only	N
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-

(*) Capacitive Touch screen keyboard

CONNECTIONS



DIMENSIONS



W09

- THERMOSTAT 1 INPUT AND 1 OUTPUT
- CONTROLLERS FOR REFRIGERATING UNITS, 3 INPUTS AND 3 OUTPUTS
- REAL TIME CLOCK FUNCTION



FEATURES

DISPLAY	W09	W09Y	W09C
Single	3 red or blue digit, h 15.5 mm		
INPUT			
One (W09) or Three (W09Y, W09C)	PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)	3x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 3x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)	
Digital input	--	1 digital input for free voltage contacts as alternative to input 3	
Accuracy	± 0.5 % fs + 1 digit		
OUTPUTS			
One (W09) or Three (W09Y, W09C)	OUT1: Relay SPDT 8A, 1/2HP 250V, 1/3 HP 125 Vac - EN 61810: 8 (3) A - EN 60730: 8 (4) A - UL 60730: 10A Res., 12 LRA, 2 FLA	OUT1: Relay SPST-NO (14A-AC1, 6AAC3 250 Vac, 1 HP 250 Vac, 1/2 HP 125 Vac) OUT2: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2 HP 250 Vac, 1/3 HP 125 Vac) OUT3: Relay SPST-NO (4A-AC1, 2A-AC3 250 Vac, 1/8 HP 250-125 Vac) 16 A max. for common relay (term. 12)	
Relay operations	100000 operations according to EN 60730		
FUNCTIONAL			
Control	ON/OFF		
Defrosting control	At intervals time by stopping compressor	At intervals time, at reaching temperature by stopping compressor, by electrical heating or hot gas/reverse cycle	
Acoustic alarm	Internal Buzzer (optional)		
Real Time Clock	--	Internal clock to manage defrosting at programmed times	
Serial communication	TTL Modibus, or RS485 by means of the external module A30 (see "Accessories" section)		
Remote display	By means of module TVRY (see "Indicators" section)		
GENERAL			
Power supply	100...240 Vac ±10% (50/60 Hz)		
Power consumption	3 VA approx.		
Dimensions / Weight	75 x 122 mm - depth 34 mm / 120 g approx.		
Connections	Screw terminal block for cables 0.2...1.5 mm ² / AWG 24...16		
Mounting	On wall. Cables outlet: on the back side or lateral side by PG9 cable gland		
Front protection degree	IP40		
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)		
Operating humidity	30... 95 RH% without condensation		
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply and relay outputs, 1KV inputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V); Directive 2006/95/CE (EN 60730-1, EN 60730-2-9). Regulation 37/2005/CE (EN13485 air, S, A, 2, - 50°C +90°C wheter used with NTC 103AT11 probe). Regulation 37/2005/CE (EN13485 air, S, A, 2, - 50°C +90°C wheter used with NTC 103AT11 probe).		

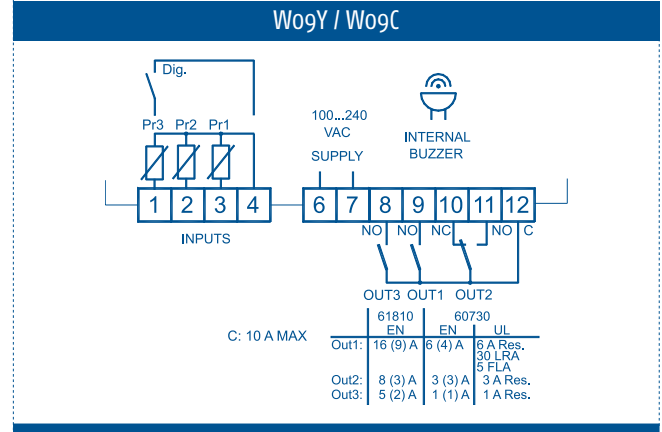
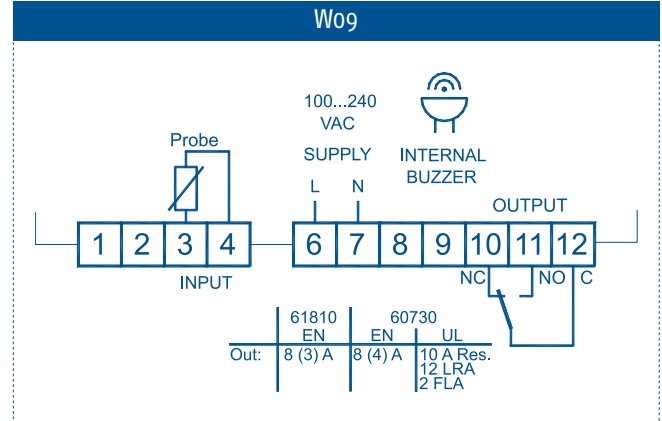
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

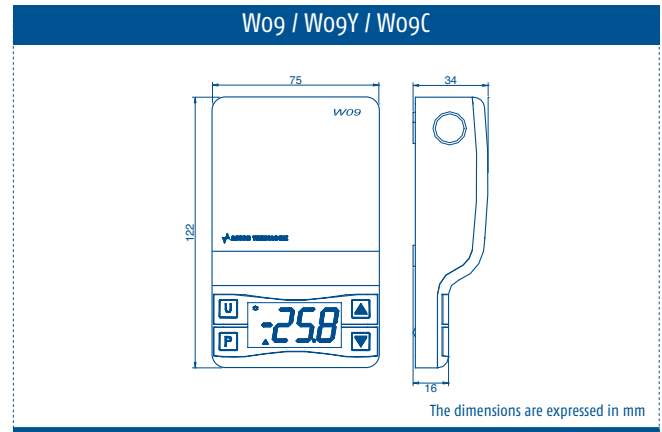
W09	CODE
POWER SUPPLY	
100...240Vac	H
OUT 1	
Relay SPDT-8A-AC1	R
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTION	
Screw type	-
DISPLAY	
Blue	B
Red (standard)	-

W09Y / W09C	CODE
ALIMENTAZIONE	
100...240Vac	H
OUT 1	
Relay SPDT-8A-AC1	R
OUT 2	
Relay SPDT-8A-AC1	R
Not available	-
OUT 3	
Relay SPST-NO 5A-AC1	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTION	
Screw type	-
DISPLAY	
Blue	B
Red (standard)	-
REAL TIME CLOCK (W09C ONLY)	
Available	C
Not available	-

CONNECTIONS



DIMENSIONS



X33H

- HUMIDITY AND TEMPERATURE CONTROLLER
- 4 INPUTS AND 4 OUTPUTS



FEATURES

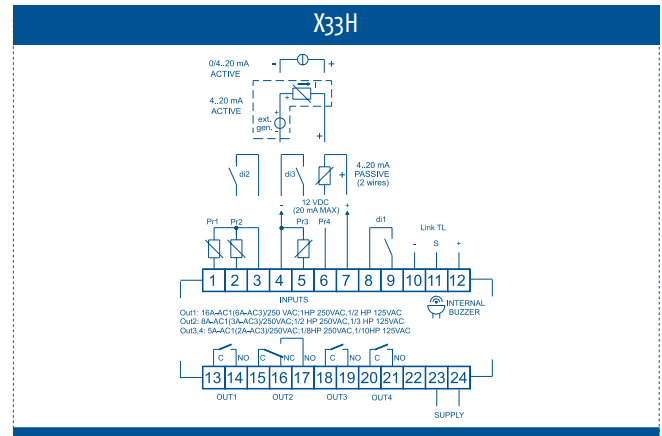
DISPLAY	
Dual	X33H 4 digit, red and amber colours, h 7 mm
INPUTS	
Four	3x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 3x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F) 2 of them can be used as digital inputs + 1 input for humidity probe (0/4... 20 mA)
Digital inputs	1 digital input for free voltage contacts + 2 optional digital inputs for free voltage contacts as alternative to temperature inputs
Accuracy	± 0.5 % fs + 1 digit
OUTPUTS	
Up to four	OUT1: Relay SPST (16A-AC1, 6A-AC3 250 Vac, 1 HP 250 Vac, 1/2HP 125 Vac) OUT2: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2 HP 250 Vac, 1/3HP 125 Vac) OUT3 e OUT4: Relay SPST-NO (5A-AC1, 2A-AC3 250 Vac, 1/8 HP 250 Vac, 1/10HP 125 Vac). 12 A max. for plug-in version
Auxiliary power supply	12 Vdc/20 mA max.
FUNCTIONAL	
Control	ON/OFF
Acoustic alarm	Internal Buzzer (optional)
Defrosting control	At intervals time by stopping compressor, by electrical heating or hot gas/reverse cycle
GENERAL	
Power supply	100... 240 Vac ±10% (50/60 Hz)
Power consumption	4 VA approx.
Dimensions / Weight	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals / 180 g approx.
Keyboard	Mechanical or "Sensitive Touch"
Connections	Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9)

HOW TO ORDER

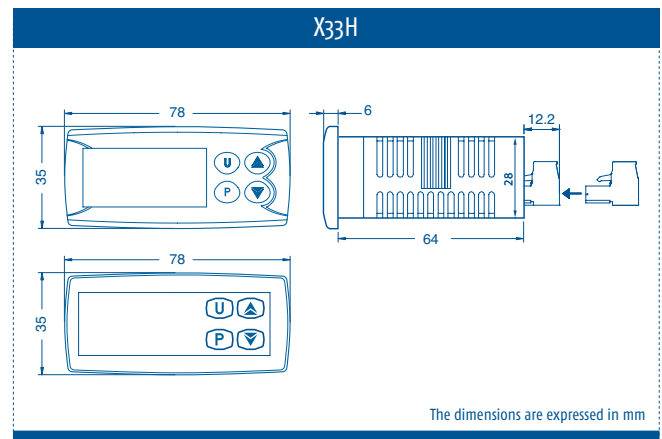
To compose the part number, pls. choose one of the option for each variable

X33H	CODE
POWER SUPPLY	
100...240Vac/Vdc	H
OUT 1	
Relay SPST-16A-AC1	R
OUT 2	
Relay SPDT-8A-AC1	R
Not available	-
OUT 3	
Relay SPST-NO 5A-AC1	R
Not available	-
OUT 4	
Relay SPST-NO 5A-AC1	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-

CONNECTIONS



DIMENSIONS



X34

- CONTROLLERS FOR REFRIGERATING UNITS
- HACCP FUNCTIONS
- ENERGY SAVING FUNCTIONS
- 4 INPUTS AND 4 OUTPUTS



FEATURES

DISPLAY	
Single	X34 3 red or blue digit, h 15.5 mm
INPUTS	
Up to four	PTC KTY 81-121 (990Ω at 25°C) -50... +109°C (-58... +228 °F) or NTC 103AT-2 (10kΩ at 25°C) -50...150°C (-58... +302 °F) or Pt1000 (1000Ω at 0 °C) -99.9... +300°C (-99.9 ... 572°F)
Digital inputs	2 digital inputs for free voltage contacts + 2 digital inputs as alternative to inputs Pr3 and Pr4
Accuracy	± 0.5 % fs + 1 digit
OUTPUTS	
Up to four (OUT1 and OUT2 are always on board)	OUT1: Relay SPST-NO-16A - 1HP 250V - EN 61810: 16 (9) A - EN 60730: 10 (4) A - UL 60730: 12A Res., 30 LRA, 5 FLA OUT2: Relay SPDT 8A - 1/2HP 250 V - EN 61810: 8 (3) A - EN 60730: 4 (4) A - UL 60730: 10A Res. OUT3 e OUT4: Relay SPST-NO 5A - 1/10HP 125/250 V - EN 61810: 5 (1) A - EN 60730: 2 (1) A - UL 60730: 2 A Gen.Use 12 A max. for plug-in version
Relay operations	100000 operations according to EN 60730
FUNCTIONAL	
Control	ON/OFF
Acoustic alarm	Internal buzzer (optional)
Defrosting control	At intervals time, at reaching temperature, at programmed times by stopping compressor, by electrical heating or hot gas/reverse cycle
HACCP functions	With alarm recording
Real time clock	Internal clock to manage defrosting at programmed times
Events	Events programming by means of the internal clock
Serial communication	Isolated RS485 with Modbus RTU protocol
Baud rate	9600 baud
GENERAL	
Power supply	12 Vac/Vdc, 12... 24 Vac/Vdc, 100...240 Vac ±10% (50/60 Hz)
Power consumption	4 VA approx.
Dimensions / Weight	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals / 180 g approx.
Keyboard	Mechanical or "Sensitive Touch"
Connections	Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9) Regulation 37/2005/CE (EN13485 aria/air, S, A, 1, - 50°C +90°C wheter used with NTC 103AT11 probe or Pt1000 class B or better

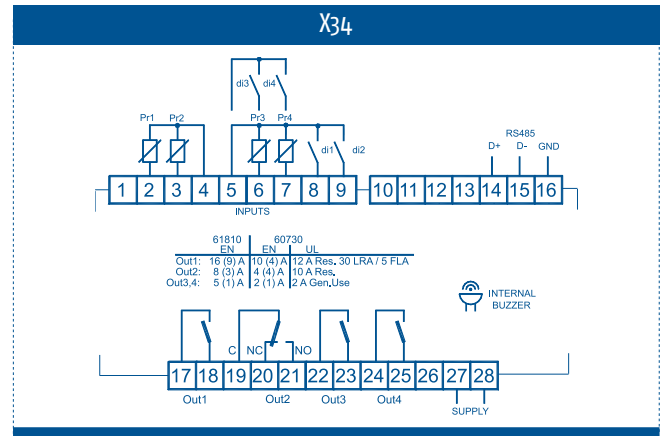
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

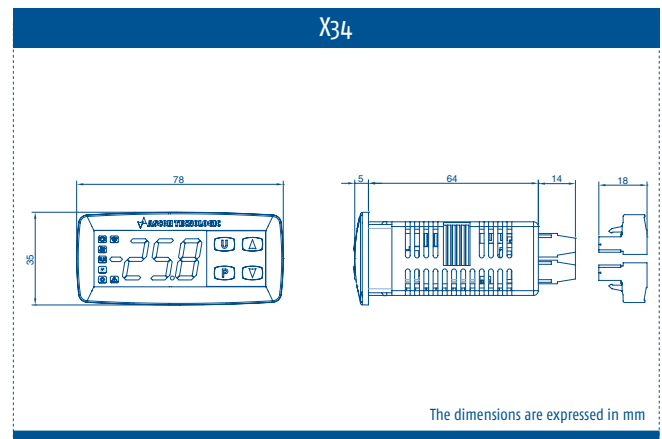
X34	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
12 Vac/Vdc	F
12... 24 Vac/Vdc	G
100... 240 Vac/Vdc	H
OUT 3	
Relay SPST-5A-AC1	R
Not available	-
OUT 4	
Relay SPST-5A-AC1	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTIONS	
Plug-in screw type	E
Plug-in screw type, fix part only	N
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-
REAL TIME CLOCK	
Available	C
Not available	-
SERIAL COMMUNICATION	
RS485	S
TTL Modbus	-

(*) Capacitive Touch screen keyboard

CONNECTIONS



DIMENSIONS



E51

- THERMOSTAT AND CONTROLLER
- 1 INPUT AND 1 OUTPUT
- SMALL DIMENSIONS



FEATURES

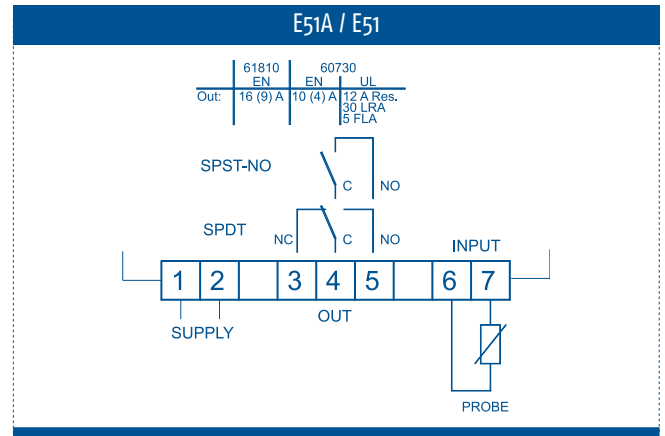
DISPLAY	E51A	E51
Single	3 red or blue digit, h 14 mm	
INPUT		
One	PTC KTY 81-121 (990 Ω at 25°C) -50... +150°C (-58... +302°F) or NTC 103AT-2 (10k Ω at 25°C) -50... +109°C (-58... +228°F)	
Accuracy	$\pm 0.5\%$ fs + 1 digit	
OUTPUT		
One	OUT1: Relay SPDT or SPST-NO (16A-AC1, 6A-AC3 250 Vac, 1 HP 250 Vac, 1/2HP 125 Vac); 12 A max. for plug-in version	
Relay operations	100000 operations for relay SPST-NO 16A and SPDT 8A, 50000 operations for relay SPDT 16A	
FUNCTIONAL		
Control	ON/OFF	
Defrosting control	--	At intervals time by stopping compressor
GENERAL		
Power supply	12 Vac/Vdc, 115, 230 Vac $\pm 10\%$ (50/60 Hz)	
Power consumption	3 VA approx.	
Dimensions / Weight	68 x 35 mm - depth 50 mm / 105 g approx.	
Connections	Screw terminal block 2.5 mm ²	
Mounting	Flush in panel in 58 x 25 mm hole	
Front protection degree	IP65, mounted in panel with gasket	
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)	
Operating humidity	30... 95 RH% without condensation	
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9)	

HOW TO ORDER

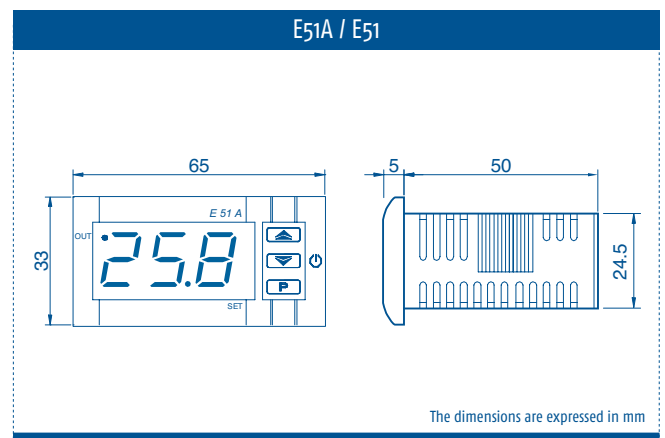
To compose the part number, pls. choose one of the option for each variable

E51A/E51	CODE
POWER SUPPLY	
12 Vac/Vdc	F
115 Vac	C
230 Vac	D
INPUT	
PTC	P
NTC	N
OUT 1	
Relay SPDT 16A-AC1	S
Relay SPST-NO-16A-AC1	R

CONNECTIONS



DIMENSIONS



TLZ12P

- THERMOSTAT
- 1 INPUT
- UP TO 2 OUTPUTS



FEATURES

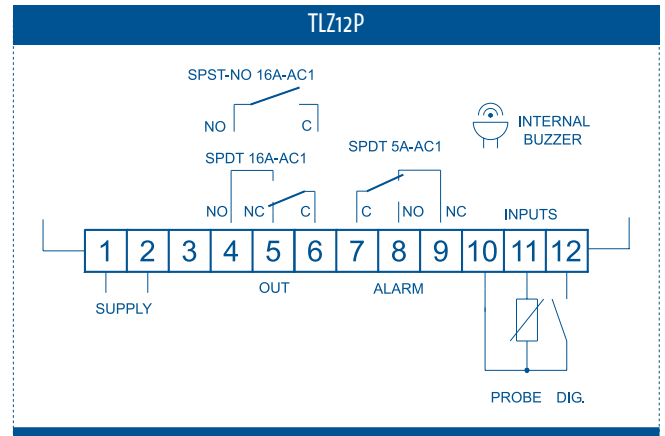
DISPLAY	TLZ12P
Single	4 red or blue digit, h 12 mm
INPUT	
One	Pt1000: -100... 500°C (-99.9... +500.0°C), -148... +932°F (-99.9... +932.0°C) or NTC PT24 C2 (100KΩ at 25°C): 0... +300°C (32... +572°F)
Digital inputs	1 digital input for free voltage contacts
Accuracy	± 0.5 % fs
OUTPUTS	
Up to 2	OUT 1: Relay SPST-NO 16A -AC1(6A-AC3)/250 Vac or Relay SPDT 16A- AC1(6A-AC3)/250 Vac OUT 2: Relay SPDT 5A-AC1(2A-AC3)/250 Vac
Relay operations	100000 operations for relay SPST-NO 16A and SPDT 8A, 50000 operations for relay SPDT 16A
FUNCTIONAL	
Control	ON/OFF
Acoustic alarm	Internal Buzzer (optional)
Defrosting control	At intervals time by stopping compressor
GENERAL	
Power supply	12, 24 Vac/Vdc, 100... 240 Vac ± 10% (50/60 Hz)
Power consumption	3 VA approx.
Dimensions / Weight	78 x 35 mm - depth 64 mm / 115 g approx.
Connections	Screw terminal block 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (EN 61010-1)

HOW TO ORDER

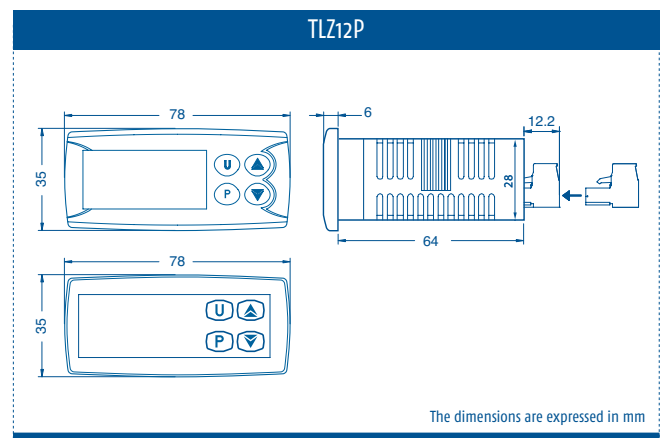
To compose the part number, pls. choose one of the option for each variable

TLZ12P	CODE
POWER SUPPLY	
12 Vac/Vdc	F
24 Vac/Vdc	L
100... 240 Vac	H
OUT 1	
Relay SPDT 16A-AC1	S
Relay SPST NO-16A-AC1	R
OUT 2	
Relay	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
INPUT	
PT1000 or NTC	P

CONNECTIONS



DIMENSIONS



TLY 25/26/29

- CONTROLLERS FOR REFRIGERATING UNITS
- UP TO 2 INPUTS AND 4 OUTPUTS
- RS485



FEATURES

DISPLAY	TLY25	TLY26	TLY29
Single	3 red or blue digit, h 12 mm		
INPUTS			
Up to two	2x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 2x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)		
Digital inputs	1 digital input for free voltage contacts		
Accuracy	± 0.5 % fs + 1 digit		
OUTPUTS			
Up to three (TLY29) Up to four (TLY25, TLY26)	With supply H type: OUT1: Relay SPST-NO 16 A max. for common (term.1), OUT 2, OUT3, OUT4: Relay 5A-AC1 With supply F type: OUT1: Relay SPST-NO 16 A max. for common (term.1), OUT 2, OUT3, OUT4: Relay 8A-AC1 (3A-AC3 250 Vac)	OUT1: Relay SPST-NO 16 A max. for common (term. 1) OUT 2, OUT3, OUT4: Relay 8A-AC1 (3A-AC3 250 Vac)	OUT1: Relay SPST-NO (16A-AC1, 6A-AC3 250 Vac) OUT2: Relay SPDT (8A-AC1, 3A-AC3 250 Vac) OUT3: Relay SPSTNO (5A-AC1, 2A-AC3 250 Vac). 16 A max. for common (term. 1)
Relay operations	100000 operations for relay SPST-NO 16A e SPDT 8A - 50000 operations for relay SPDT 16A		
FUNCTIONAL			
Control	ON/OFF		
Acoustic alarm	--	Internal buzzer (optional)	
Defrosting control	At intervals time by stopping compressor, by electrical heating or hot gas/reverse cycle		
Real time clock	Internal clock to manage defrosting at programmed times		
Serial communication	RS485 by means of the external mod. A30 (see "Accessories" section)	RS485 on board with Modbus RTU protocol	RS485 by means of the external mod. A30 (see "Accessories" section)
Baud rate	--	9600 baud	
Remote display	PBy means of module TVRY (see "Indicators" section)		
GENERAL			
Power supply	12 Vac/Vdc, 100...240 Vac ±10% (50/60 Hz)	12 Vac/Vdc ±10% (50/60 Hz)	12 Vac/Vdc, 24 Vac/Vdc, 100... 240 Vac ± 10% (50/60 Hz)
Power consumption	4 VA approx.		
Dimensions	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals		
Weight	115 g approx.	155 g approx.	
Connections	Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²		
Mounting	Flush in panel in 71 x 29 mm hole		
Front protection degree	IP65, mounted in panel with gasket		
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)		
Operating humidity	30... 95 RH% without condensation		
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9)		

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

TLY25	CODE
POWER SUPPLY	
12 Vac/Vdc	F
100... 240 Vac	H
REAL TIME CLOCK	
Available	C
Not available	-

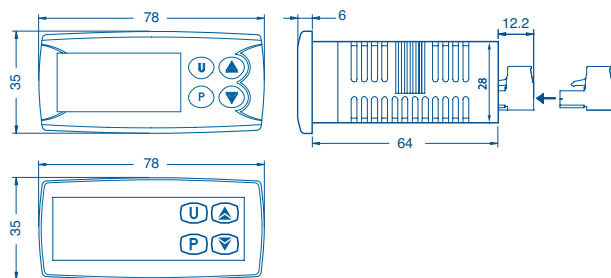
TLY26	CODE
REAL TIME CLOCK	
Available	C
Not available	-
REMOTE DISPLAY	
Available	D
Not available	-

SERIAL COMMUNICATION	
RS485	S
TTL Modubus	-
OUT 4	
Relay SPDT 8A AC1	R
Not available	-

TLY29	CODE
POWER SUPPLY	
12 Vac/Vdc	F
12...24 Vac/Vdc	G
24 Vac/Vdc	L
100...240 Vac	H
BUZZER (INTERNAL)	
Available	B
Not available	-
REAL TIME CLOCK	
Available	C
Not available	-

DIMENSIONS

TLY25 / TLY26 / TLY29



The dimensions are expressed in mm

CONNECTIONS

TLY25

Out1: 16A-AC1(6A-AC3) / 250 VAC
 Out2,3,4 Supply F: 8A-AC1(3A-AC3) / 250 VAC
 Out 2,3,4 Supply H: 5A-AC1(2A-AC3) / 250 VAC

TLY26

Pr1 Pr2 DIG. RS 485 to TVRY

Out1: 16A-AC1(6A-AC3) / 250 VAC
 Out2,3,4: 8A-AC1(3A-AC3) / 250 VAC

TLY29

OUT1: 16A-AC1(6A-AC3) / 250 VAC
 OUT2: 8A-AC1(3A-AC3) / 250 VAC
 OUT3: 5A-AC1(2A-AC3) / 250 VAC

TLY35

- CONTROLLER FOR REFRIGERATING UNITS
- UP TO 2 INPUTS AND 4 OUTPUTS
- RS485



FEATURES

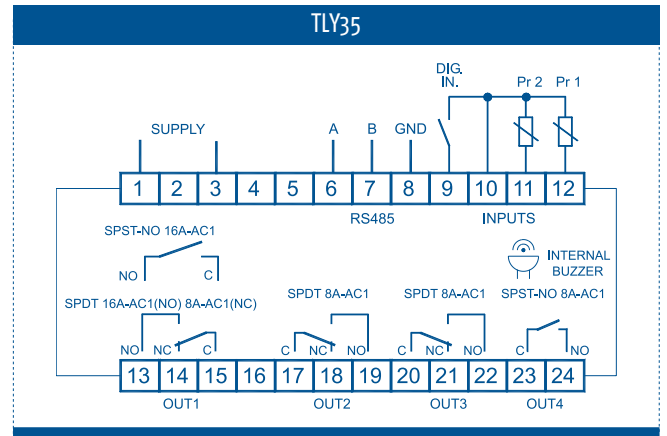
TLY35	
DISPLAY	
Single	4 red or blue digit, h 12 mm
INPUTS	
Up to two	2x PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or 2x NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)
Digital input	1 digital input for free voltage contacts
Accuracy	± 0.5 % fs + 1 digit
OUTPUTS	
Up to four	OUT1: Relay SPST-NO (16A-AC1, 6AAC3 250 Vac, 1HP 250Vac, 1/2HP 125 Vac) or SPDT (16A-AC1-NO, 8A-AC1-NC, 6A-AC3 250 Vac, 1HP 250Vac, 1/2HP 125 Vac) OUT2 e OUT3: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2HP 250Vac, 1/3HP 125 Vac) OUT4: Relay SPST-NO (8A-AC1, 3A-AC3 250 Vac, 1/2HP 250Vac, 1/3HP 125 Vac)
Relay operations	100000 operations for relay SPST-NO 16A and SPDT 8A - 50000 operations for relay SPDT 16A
FUNCTIONAL	
Control	ON/OFF
Defrosting control	At intervals time by stopping compressor, by electrical heating or hot gas/reverse cycle
Real Time Clock	Internal clock to manage defrosting at programmed times
Serial communication	Isolated RS485 with Modbus RTU protocol
Baud rate	9600 baud
Remote display	By means of module TVRY (see "Indicators" section)
GENERAL	
Power supply	12 Vac/Vdc, 24 Vac/Vdc, 100...240 Vac ±10% (50/60 Hz)
Power consumption	5 VA approx.
Dimensions / Weight	4 DIN rail module, 70 x 84 mm, depth 60 mm/ 180 g
Connections	Screw terminal block 2.5 mm ²
Mounting	On OMEGA DIN A rail
Front protection degree	IP40, for internal use
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (EN 61010-1)

HOW TO ORDER

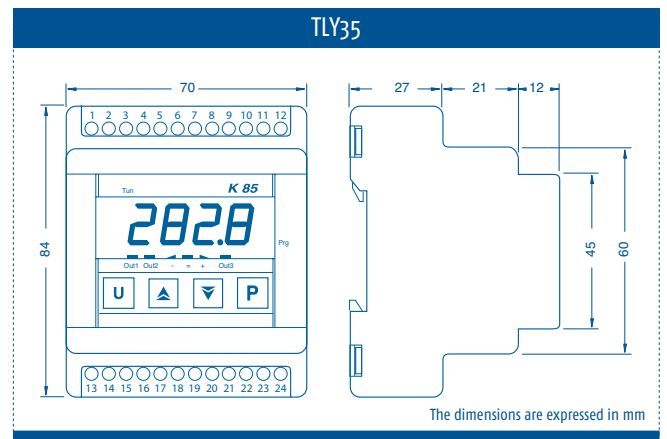
To compose the part number, pls. choose one of the option for each variable

TLY35	CODE
POWER SUPPLY	
12 Vac/Vdc	F
24 Vac/Vdc	L
100... 240 Vac	H
OUT 1	
Relay SPDT 16A AC1	S
Relay SPST-NO 16A AC1	R
OUT 4 / BUZZER (INTERNAL)	
Relay SPDT 8A AC1	R
Buzzer	B
Not available	-
REAL TIME CLOCK	
Available	C
Not available	-
SERIAL COMMUNICATION	
RS485	S
TTL Modubus	-

CONNECTIONS



DIMENSIONS



TLZ35

- THERMOSTAT
- 1 INPUT AND UP TO 2 OUTPUTS



FEATURES

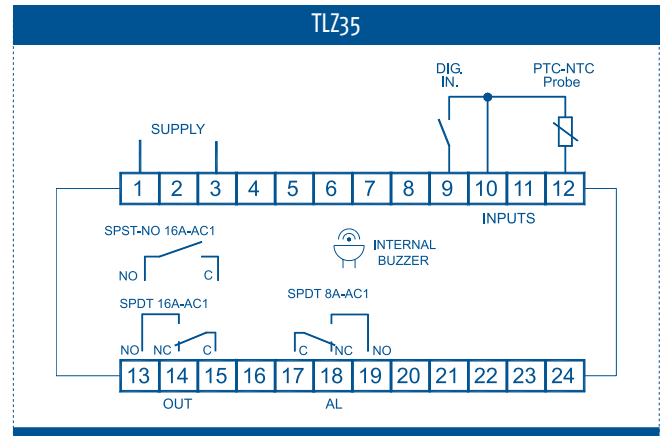
DISPLAY		TLZ35
Single		4 digit rossi o blu, h 12 mm
INPUT		
One		Termistori PTC KTY 81-121 (990Ω a 25°C) -50... +150°C (-58... +302°F) oppure Termistori NTC 103AT-2 (10kΩ a 25°C) -50... +109°C (-58... +228°F)
Digital input		1 digital input for free voltage contacts
Accuracy		± 0.5 % fs
OUTPUTS		
Up to two		OUT 1: Relay SPST-NO 16A -AC1(6A-AC3)/250 Vac or SPDT 16A- AC1(6A-AC3)/250 Vac OUT2: Relay SPDT 8A-AC1 (3A-AC3)/ 250 Vac
Relay operations		100000 operations for relay SPST-NO 16A and SPDT 8A - 50000 operations for relay SPDT 16A
FUNCTIONAL		
Control		ON/OFF
Acoustic alarm		Internal buzzer (optional)
Defrosting control		At intervals time by stopping compressor
GENERAL		
Power supply		12, 24 Vac/Vdc, 100... 240 Vac ± 10% (50/60 Hz)
Power consumption		3 VA approx.
Dimensions / Weight		4 DIN rail modules - 70 x 84 x 60 mm / 150 g approx.
Connections		Screw terminal block 2.5 mm ²
Mounting		On OMEGA DIN A rail
Front protection degree		IP40, for internal use
Operating / storage temperature		0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity		30... 95 RH% without condensation
Conformity		Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (EN 61010-1)

HOW TO ORDER

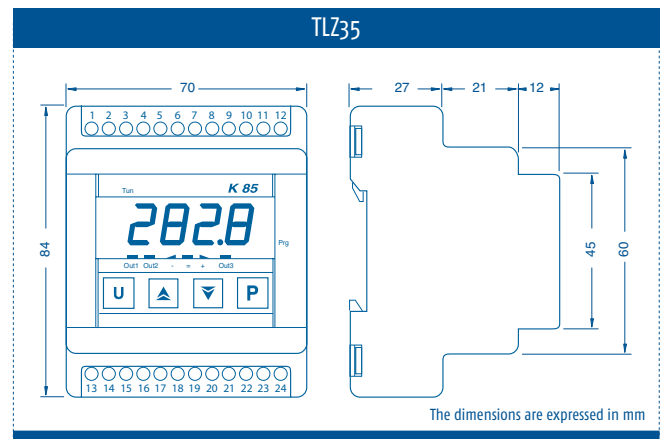
To compose the part number, pls. choose one of the option for each variable

TLZ35	CODE
POWER SUPPLY	
12 Vac/Vdc	F
24 Vac/Vdc	L
100... 240 Vac	H
OUT 1	
Relay SPDT 16A-AC1	S
Relay SPST NO-16A-AC1	R
OUT 2	
Relay	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-

CONNECTIONS



DIMENSIONS



TLW24

- CONTROLLER FOR REFRIGERATING UNITS
- UP TO 2 INPUTS AND 4 OUTPUTS
- PICK RECORDING
- INOX FRONT FRAME



FEATURES

DISPLAY		TLW24
Single		4 red or blue digit, h 12 mm
INPUTS		
Up to two		2x PTC KTY 81-121 (990Ω at 25°C): -50... +150°C (-58... +302°F) or 2x NTC 103AT-2 (10kΩ at 25°C): -50... +109°C (-58... +228°F) or 2x PT1000: -100... +100°C (-148... +212°F)
Digital input		1 digital input for free voltage contacts
Accuracy		± 0.5 % fs + 1 digit
OUTPUTS		
Up to four		OUT1: Relay SPST-NO (16A-AC1, 12A-AC3 /250Vac, 2HP 250Vac, 1HP 125Vac) OUT2: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2HP 250 Vac, 1/3 HP 125 Vac) OUT3: Relay SPST-NO (8A-AC1, 3A-AC3 250 Vac, 1/2HP 250 Vac, 1/3 HP 125 Vac) OUT4: Relay SPST-NO (R) o SPDT (S) (16A-AC1, 6A-AC3 250 Vac, 1HP 250Vac, 1/2HP 125 Vac) Power supply common (term. 13, 14): 16 A max. (11.5 A max. for UL873 with Faston terminals)
Relay operations		OUT1, OUT2, OUT3: 30000 operations OUT4: 50000 operations (VDE approval)
FUNCTIONAL		
Control		ON/OFF
Acoustic alarm		Internal buzzer (optional)
Defrosting control		At intervals time by stopping compressor, by electrical heating or hot gas/reverse cycle
Special functions		Stand-by, light control, min./max. picks recording, keyboard lock, duty cycle function
Serial communication		RS485 by means of the external module A30 (see "Accessories" section)
GENERAL		
Power supply		12 Vac/Vdc, 12... 24 Vac/Vdc, 100... 240 Vac ±10% (50/60 Hz)
Power consumption		6 VA approx.
Frontal frame		Grey or white autoextinguishing plastic UL 94 Vo or Inox steel, with transparent protective cover (optional)
Dimensions / Weight		185 x 38 mm, depth 79 mm / 240 g approx.
Connections		Faston male 6.3 mm or Screw terminal block 2.5 mm ²
Mounting		Flush in panel in 31 x 150 mm hole, with screw protective covers
Front protection degree		IP65, mounted in panel with gasket
Operating / storage temperature		0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity		30... 95 RH% without condensation
Conformity		Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (EN 61010-1)

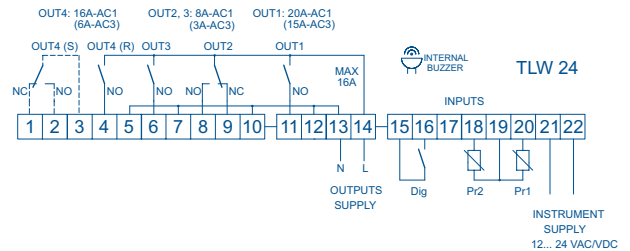
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

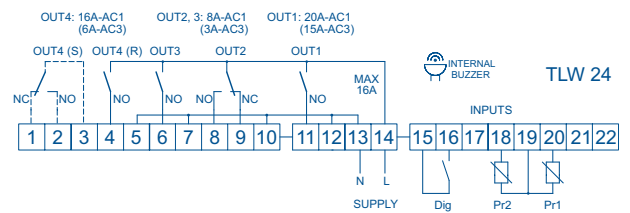
TLW24	CODE
OUT 2	
Relay 8A SPDT	R
Not available	-
OUT 3	
Relay 8A SPDT	R
Not available	-
OUT 4	
Relay 16A SPST	R
Relay 16A SPDT	S
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTIONS	
Screw type	MV
Faston type	--
DISPLAY AND FRONT FRAME COLOUR	
Red Display, Grey front frame	--
Red Display, White front frame	RB
Red Display, Inox front frame	-X
Blue Display, Grey front frame	B-
Blue Display, White front frame	BB
Blue Display, Inox front frame	BX
SPECIAL VERSIONS	
Input for PT1000 -100+100°C	P
DUTY CYCLE function	F
Standard	-
FRONT PROTECTION - POWER SUPPLY	
With transparent cover - Supply 100... 240 Vac	C
Without transparent cover - Supply 100... 240 Vac	-
With transparent cover - Supply 12 Vac/Vdc	J
Without transparent cover - Supply 12 Vac/Vdc	F
With transparent cover - Supply 12... 24 Vac/Vdc	I
Without transparent cover - Supply 12... 24 Vac/Vdc	G

CONNECTIONS

TLW24 - POWER SUPPLY 12... 24 VAC

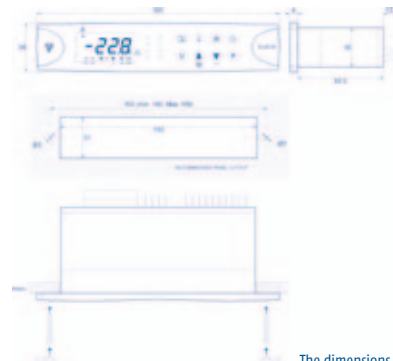


TLW24 - OTHER POWER SUPPLIES



DIMENSIONS

TLW24



The dimensions are expressed in mm

TLB29

- CONTROLLER FOR REFRIGERATING UNITS
- UP TO 2 INPUTS AND 3 OUTPUTS
- SENSITIVE-TOUCH KEYBOARD



FEATURES

DISPLAY		TLB29
Single		2 red or blue digit, h 31 mm
INPUTS		
Up to two		2x PTC KTY 81-121 (990Ω at 25°C): -50... 99 °C (-58... 99 °F) or 2x NTC 103AT-2 (10kΩ at 25°C): -50... 99 °C (-58... 99 °F)
Digital input		2 digital inputs for free voltage contacts
Accuracy		± 0.5 % fs + 1 digit
OUTPUTS		
Up to three		OUT1: Relay SPST-NO (16A-AC1, 6A-AC3 250 Vac) OUT2: Relay SPDT (8A-AC1, 3A-AC3 250 Vac) OUT3: Relay SPSTNO (8A-AC1, 3A-AC3 250 Vac)
Relay operations		100000 operations (VDE)
FUNCTIONAL		
Control		ON/OFF
Acoustic alarm		Internal buzzer (optional)
Defrosting control		At intervals time by electrical heating or hot gas/reverse cycle
GENERAL		
Power supply		100...240 Vac ±10% (50/60 Hz)
Power consumption		4 VA approx.
Dimensions / Weight		96 x 50 mm, depth 60 mm / 155 g approx.
Keyboard		"Sensitive-Touch" keyboard or TLBTA external keyboard (optional - see page 44)
Connections		Screw terminal block 2.5 mm ² + plug-in connectors (optional for inputs only)
Mounting		Flush in panel in 90 x 44 mm hole
Front protection degree		IP40, mounted in panel with gasket
Operating / storage temperature		0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity		30... 95 RH% without condensation
Conformity		Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (EN 61010-1)

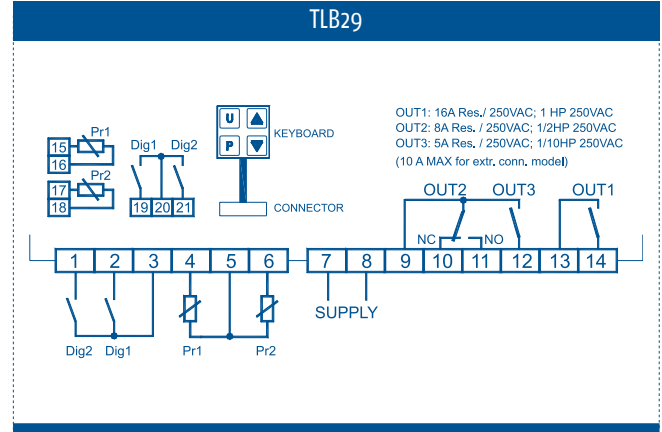
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

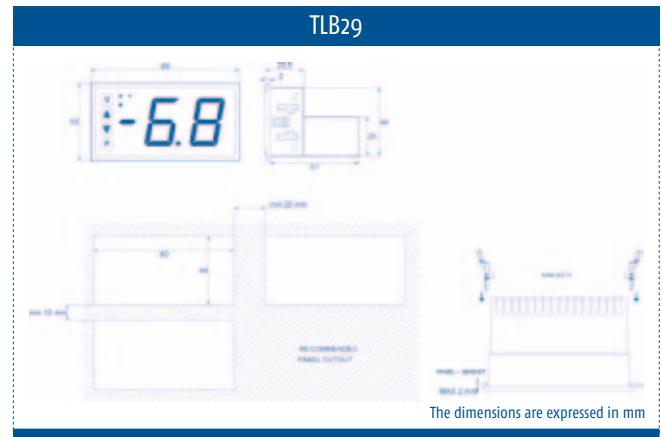
TLB29	CODE
KEYBOARD	
TLBTA external keyboard	-
Sensitive-Touch (*)	S
POWER SUPPLY	
100... 240 Vac	H
OUT 1	
Relay SPST-NO 16A	R
OUT 2	
Relay SPDT 8A	R
Not available	-
OUT 3	
Relay SPST NO 5A	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTIONS	
Screw type (Standard)	-
Screw type + input connectors	B
With input connectors only	C
Plug-in type	E
Plug-in type, fix part only	N
DISPLAY	
Red	-
Blue	B

(*) Capacitive Touch screen keyboard

CONNECTIONS



DIMENSIONS



TLB 30/55

- CONTROLLERS FOR REFRIGERATING UNITS
- UP TO 2 INPUTS AND 4 OUTPUTS
- SENSITIVE-TOUCH KEYBOARD



FEATURES

DISPLAY	TLB30	TLB55
Single	2 red or blue digit, h 31 mm	2 red or blue digit, h 54 mm
INPUTS		
Up to two	2x PTC KTY 81-121 (990Ω at 25°C): -50... 99 °C (-58... 99 °F) or 2x NTC 103AT-2 (10kΩ at 25°C): -50... 99 °C (-58... 99 °F)	
Digital input	2 digital inputs for free voltage contacts	
Accuracy	± 0.5 % fs + 1 digit	
OUTPUTS		
Up to four	OUT1: Relay SPST-NO (12A-AC1, 6A-AC3 250 Vac) OUT2: Relay SPST-NO (8A-AC1, 3A-AC3 250 Vac) OUT3 e OUT4: Relay SPST-NO (5A-AC1, 2A-AC3 250 Vac)	
Relay operations	100000 operations (EN60730)	
FUNCTIONAL		
Control	ON/OFF	
Acoustic alarm	Internal buzzer (optional)	
Defrosting control	At intervals time by electrical heating or hot gas/reverse cycle	
GENERAL		
Power supply	100...240 Vac ±10% (50/60 Hz)	
Power consumption	4 VA approx.	
Dimensions	96 x 50 mm, depth 22.5 mm	135 x 97 mm, depth 22.5 mm
Power module BSLB4	90 x 65 mm, depth 41 mm	
Weight	70 g approx. (TLB30) + 115 g approx. (BSLB4)	135 g approx. (TLB55) + 115 g approx. (BSLB4)
Keyboard	"Sensitive-Touch" keyboard or TLBTA external keyboard (optional - see page 44)	
Connections	TLB connections (inputs): mini plug-in connectors BSLB4 connections (power supply and outputs): 6 pole plug-in connector AMP MATE-N-LOK .250 " type TLB-BSLB4 connections: 3 m max. by means of cable with RJ connectors telephonic type	
Mounting	Flush in panel in 90 x 44 mm hole	Flush in panel in 124 x 85 mm hole
Front protection degree	IP40, mounted in panel with gasket	
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)	
Operating humidity	30... 95 RH% without condensation	
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN 61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN 61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9) Approvals: ENEC (lic.n. 00161); C-UL (file n. E212227)	

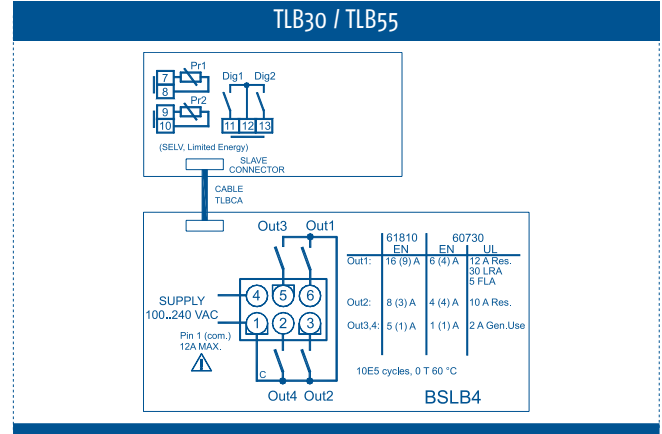
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

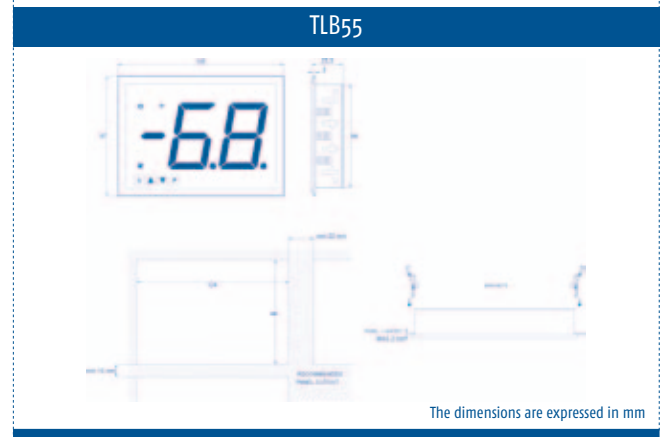
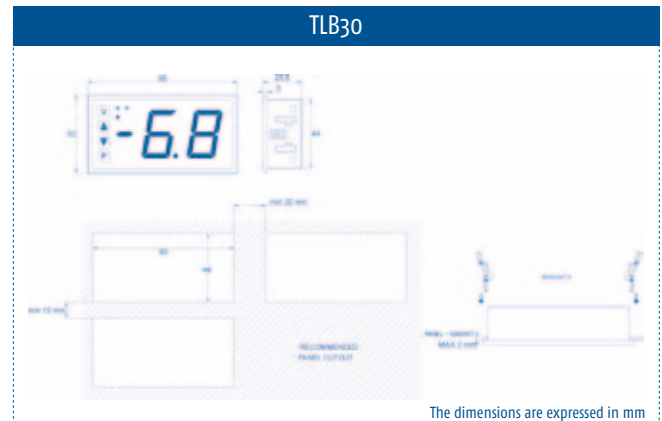
TLB30 /TLB55	CODE
KEYBOARD	
TLBTA external keyboard	-
Sensitive-Touch (*)	S
OUT 1	
Available	Y
Not available	-
OUT 2	
Available	Y
Not available	-
OUT 3	
Available	Y
Not available	-
OUT 4	
Available	Y
Not available	-
VOLTAGE ALARM	
Available	V
Not available	-

(*) Capacitive Touch screen keyboard
To be used with slave module BSLB4 and cable TLBCA (see following page)

CONNECTIONS



DIMENSIONS



BSLB₄

- ACCESSORY FOR TLB SERIES
- POWER MODULE (SLAVE)



FEATURES

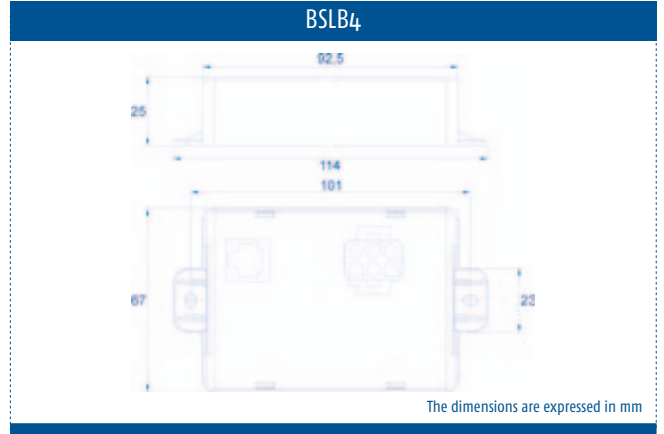
OUTPUTS	BSLB ₄
Up to four	OUT1: Relay SPST-NO (12A-AC1, 6A-AC3 250 Vac) OUT2: Relay SPST-NO (8A-AC1, 3A-AC3 250 Vac) OUT3 e OUT4: Relay SPST-NO (5A-AC1, 2A-AC3 250 Vac)
Relay operations	100000 operations, according to EN60730
GENERAL	
Power supply	100...240 Vac ±10% (50/60 Hz)
Power consumption	4 VA approx.
Dimensions / Weight	90 x 65 mm, depth 41 mm / 115 g approx.
Connections	Power supply and outputs: 6 pole plug-in connector AMP MATE-N-LOK .250 " type TLB-TLBSL connection: 3 m max. by means of cable with RJ connectors telephonic type
Mounting	Within enclosure
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (EN 61010-1)

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

BSLB ₄	CODE
POWER SUPPLY	
100... 240 Vac/Vdc	H
OUT 1	
Relay 16A SPST-AC1	R
OUT 2	
Relay 8A SPST	R
OUT 3	
Relay 5A SPST	R
OUT 4	
Relay 5A SPST	R
VOLTAGE ALARM	
Available	V
Not available	-

DIMENSIONS



TLB TA/CA

- ACCESSORIES FOR TLB SERIES
- PROGRAMMING KEYBOARD
- CABLE OF CONNECTION



FEATURES

PROGRAMMING KEYBOARD

TLBTA

Functions

The programming of the operating parameters of TLB series, in the version without keys, can be done by using this remote keyboard, connectable to TLB unit by means of a cable TLBCA (1 m). In the version with Sensitive Touch keyboard, obviously TLBTA is not necessary.

CONNECTION CABLE

BETWEEN DISPLAY TLB AND SLAVE BSLB₄

TLBCA

Length

1 meter

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

TLBCA LENGHT	CODE
1 m	100
3 m	300

TLBTA CABLE LENGHT	CODE
1 m	--

B05 P03/P05

- CONTROLLERS FOR REFRIGERATING UNITS
- 3 INPUTS AND 4 OUTPUTS
- WITH OPERATOR PANELS



FEATURES

DISPLAY	B05	P03	P05
Single	--	2 red or blue digit, h 31 mm	2 red or blue digit, h 54 mm
INPUTS			
Up to three	3x PTC KTY 81-121 (990Ω at 25°C): -50... 99 °C (-58... 99 °F) or 3x NTC 103AT-2 (10kΩ at 25°C): -50... 99 °C (-58... 99 °F) or PT1000 (1000Ω at 25°C): 199... 99°C/-99... 99°F	--	--
Digital input	2 digital inputs for free voltage contacts as alternative to 2 probe inputs	1 digital input for free voltage contacts	
Accuracy	± 0.5 % fs + 1 digit		
OUTPUTS			
Up to four	<p>OUT1: SPST-NO-16A-250V 1HP EN 61810: 16 (9) - EN 60730: 6 (4) - UL 60730: 6 A Res., 30 LRA, FLA 5</p> <p>OUT2: SPST-8A-1 / 2HP 250V EN 61810: 8 (3) - EN 60730: 4 (4) - UL 60730: 4 A Res., 24 LRA, FLA 4</p> <p>OUT3: SPST-5A-250V EN 61810: 5 (1) - EN 60730: 1 (1) A - UL 60730: 1 A Res.</p> <p>OUT4: SPST-5A-250V EN 61810: 5 (1) - EN 60730: 1 (1) A - UL 60730: 1 A Res</p> <p>Common power supply (pim): 12A max.</p>	--	--
Relay operations	30.000 operations (EN60730)	--	--
FUNCTIONAL			
Function	Power supply and control unit	Display	
Acoustic alarm	Internal buzzer (optional)	--	
Control	ON/OFF	--	
Defrosting control	At intervals time by electrical heating or hot gas/reverse cycle	--	
GENERAL			
Power supply	100...240 Vac ±10% (50/60 Hz)		
Power consumption	4 VA approx.		
Dimensions	92 x 92 mm, depth 27.8 mm	96 x 50 mm, depth 22.5 mm	135 x 97 mm, depth 22.5 mm
Weight	130 g approx.	70 g approx.	135 g approx.
Keyboard	--	"Sensitive-Touch" keyboard	
Connections	B05 connections (power supply and outputs): 6 pole plug-in connector AMP MATE-N-LOK .250 " type	P03/P05-B05 connections: 3 m max. by means of cable with mini plug-in connectors	
Mounting	On panel	Flush in panel in 90 x 44 mm hole	Flush in panel in 124 x 85 mm hole
Front protection degree	--	IP40, mounted in panel with gasket	
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)		
Operating humidity	30... 95 RH% without condensation		
Conformity	Directive 2004/108/CE (EN5022: class B; EN61000-4-2: 8kV air, 4kV cont.; EN 61000-4-3: 10V/m; EN61000-4-4: 2kV supply, inputs, outputs; EN61000-4-5: supply 2kV com. mode, 1 kV diff. mode; EN 61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9) Approvals: ENEC (Lic.n. 00161); C-UL (file n. E212227)		

HOW TO ORDER

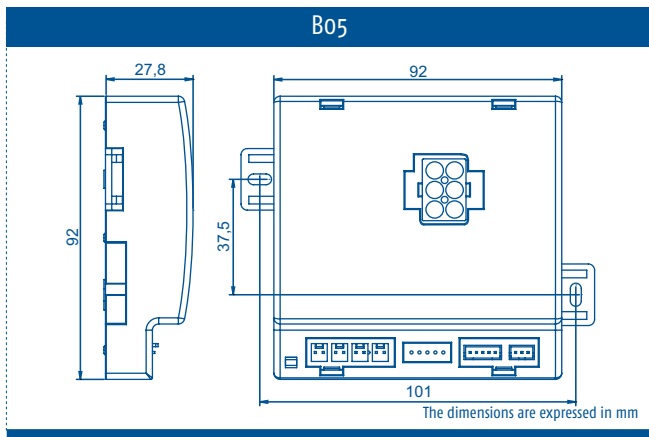
To compose the part number, pls. choose one of the option for each variable

B05 - SUPPLY AND CONTROL UNIT	CODE
POWER SUPPLY	
100... 240 Vac	H
OUT 1	
Relay SPST-NO 16A	R
Not available	-
OUT 2	
Relay SPST-NO 8A	R
Not available	-
OUT 3	
Relay SPST-NO 5A	R
Not available	-
OUT 4	
Relay SPST-NO 5A	R
Not available	-

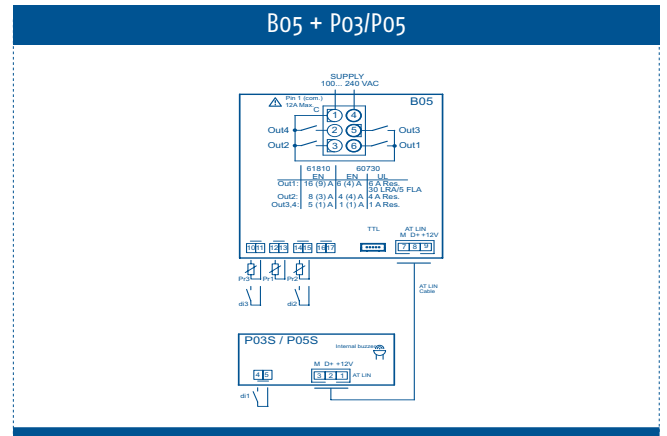
P03/P05 - DISPLAY	CODE
BUZZER (UINTERNAL)	
Available	B
Not available	-
DISPLAY	
Blue	B
Red (standard)	-

CALIND - CONNECTION CABLE BETWEEN B05 AND P03/P05	CODE
LENGTH	
0.8 m	080
1.2 m	120
3.3 m	330

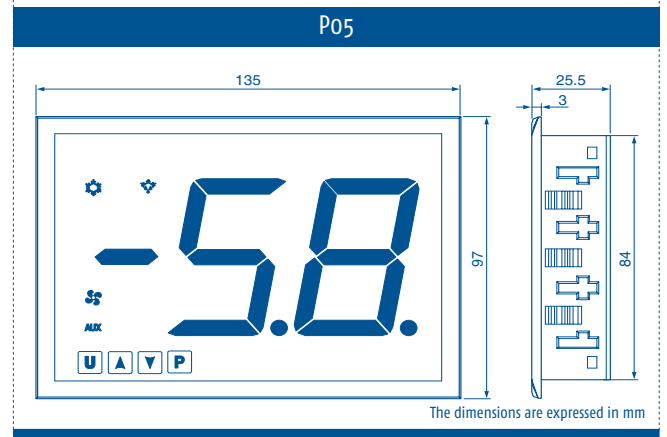
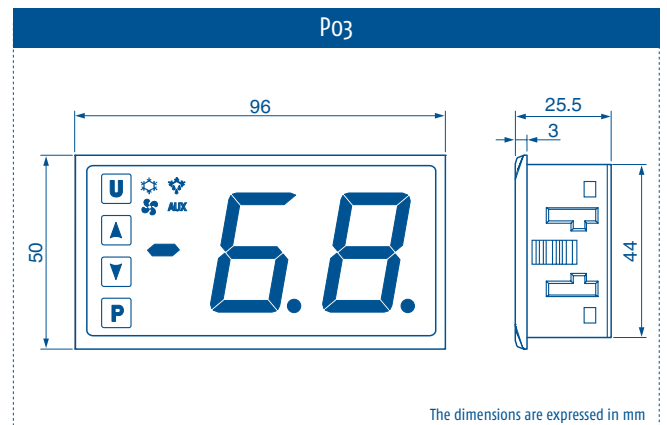
DIMENSIONS



CONNECTIONS



DIMENSIONS





INDICATORS



Easy to use, reliable and cost effective

Indicators with input for temperature probes and analogue signals in current or voltage. Available also LCD versions with external probe already wired.

INDICATORS

FEATURES		Z31V	K31V	K38V
Dimensions (mm)	78x35	•	•	•
	24x48			
	48x48	•		
	70x84			
	4 DIN rail module			
Single display	Various (see detailed table)			
	64x31			
Digit		3	4	4
Input	PTC-NTC	•		
	J-K-S-R-T + IR + PTC-NTC		•	•
	J-K-S-R-T + IR + Pt100		•	•
	0/4... 20 mA or 0/1... 5 V or 0... 10V		•	•
	Digital		2	
Outputs		1	4	2
Power supply	12 Vac/Vdc	•	•	
	12... 24 Vac/Vdc	•		
	24 Vac/Vdc		•	•
	115, 230 Vac			
	100... 240 Vac	•	•	•
	12 Vdc (by the instrument)			
	1,5 Vdc battery Solar cell			
RS485 Modbus			•	
CE certification		•	•	•
UL approval		•	•	•
ENEC approval		•		

	K48V	K85V	E51V	TLCD	TVRY	X31L
			•			•
	•					
		•		•		
	•	•	•	•	•	•
	4	4	3	2	2 1/2	3
	•	•				
	•	•				
	•	•				
	2	2				10
	3	3				1
			•			
	•	•				•
	•	•	•			•
				•	•	
		•		•		
	•	•	•	•	•	•
	•	•				

THERMOSTATS
AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS
AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED
SYSTEMS

PLC AND
OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

Z31V

- INDICATOR
- 1 INPUT AND 1 OUTPUT FOR ALARM INDICATION
- SENSITIVE-TOUCH KEYBOARD



FEATURES

Z31V	
DISPLAY	
Single	3 red or blue digit, h 15.5 mm
INPUT	
One	PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)
Accuracy	± 0.5 % fs + 1 digit
OUTPUT	
One, for alarm indication	OUT1: Relay SPDT or SPST-NO (16A - 1HP 250V, 1/2HP 125 Vac); EN 61810: 16 (9) A - EN 60730: 10 (4) A - UL 60730: 12 A Res., 30 LRA, 5 FLA 12 A max. for plug-in version
Relay operations	100000 operations
FUNCTIONAL	
Acoustic alarm	Internal buzzer (optional)
GENERAL	
Power supply	12 Vac/Vdc, 12...24 Vac/Vdc, 100...240 Vac ±10% (50/60 Hz)
Power consumption	4 VA approx.
Dimensions / Weight	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals / 120 g approx.
Keyboard	Mechanical or "Sensitive Touch"
Connections	Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9). Regulation 37/2005/CE (EN13485 air, S, A, 2, - 50°C +90°C wheter used with NTC 103AT1 probe).

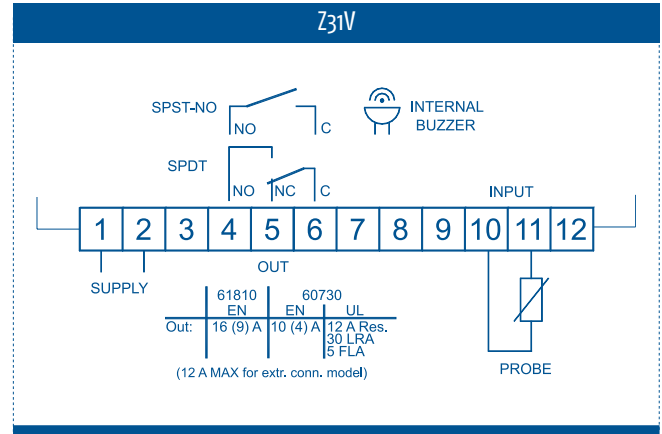
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

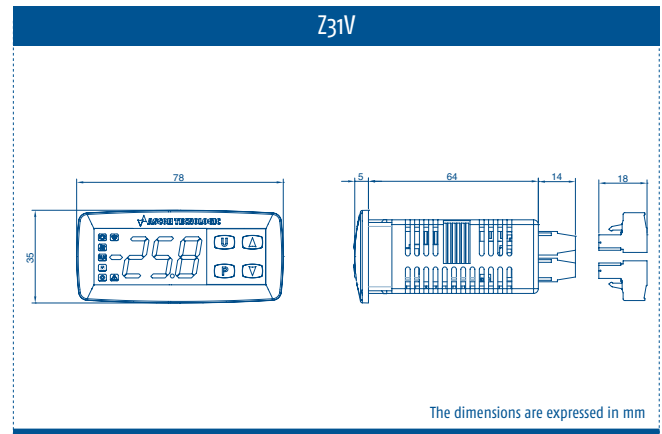
Z31V	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
12 Vac/Vdc	F
12... 24 Vac/Vdc	G
100... 240 Vac	H
OUT 1	
Relay SPDT 16A-AC1	S
Relay SPST-NO-16A-AC1	R
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTIONS	
Plug-in screw type	E
Plug-in screw type, fix part only	N
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-

(*) Capacitive Touch screen keyboard

CONNECTIONS



DIMENSIONS



K 31V/38V

- INDICATORS
- UP TO 4 OUTPUTS FOR ALARM INDICATION
- RS485 OR TTL SERIAL COMMUNICATION



FEATURES

DISPLAY	K31V	K38V
Single	4 red digit, h 12 mm + 3 LEDs bargraph	
INPUTS		
4 different configurations	Thermocouples (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermoresistances Pt 100 3 wires (-200... 850°C/-328... 1562°F)	
	Thermocouples J (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermistors PTC KTY 81-121 (990Ω at 25°C) (-55... 150°C/-67... 302°F) and Thermistors NTC 103AT-2 (10kΩ at 25°C) (-50... 110°C/-58... 230°F)	
	Linear signals 0/4... 20mA	
	Linear signals 0/10... 50mV, 0/12... 60mV, 0/1... 5V, 0/2... 10V	
Digital inputs	2 digital inputs for free voltage contacts	
OUTPUTS		
Up to four (K31V) Up to two (K38V)	OUT1 and OUT2: Relay SPDT (8A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving OUT3 and OUT4: Relay SPST-NO (5A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving	OUT1 and OUT2: Relay SPDT (8A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving
Auxiliary supply	12 Vdc/20 mA max.	
FUNCTIONAL		
Signal retransmission	Set point	--
Serial communication	RS485 with Modbus RTU protocol	TTL ModBus
Baud rate	1200... 38400 baud, programmable	--
GENERAL		
Power supply	12 Vac/Vdc, 24 Vac/Vdc, 100... 240 Vac/Vdc ± 10% (50/60 Hz)	
Power consumption	6 VA approx.	
Dimensions	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals	78 x 35 mm - depth 64 mm
Weight	180 g approx.	
Connections	Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²	Screw terminal block 2.5 mm ²
Mounting	Flush in panel in 71 x 29 mm hole	
Front protection degree	IP65, mounted in panel with gasket	
Operating / storage temperature	0... 50°C (32... 122°F)/-30... 70°C (-22... 158°F)	
Operating humidity	30... 95 RH% without condensation	
Conformity	Directive EMC 2004/108/CE (EN 61326-1), Directive BT 2006/95/CE (EN 61010-1)	

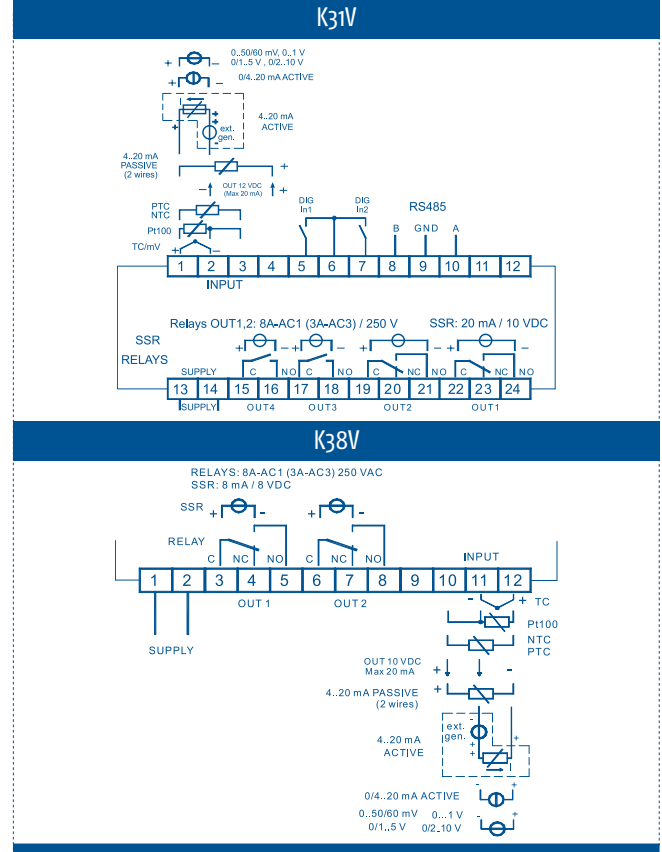
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

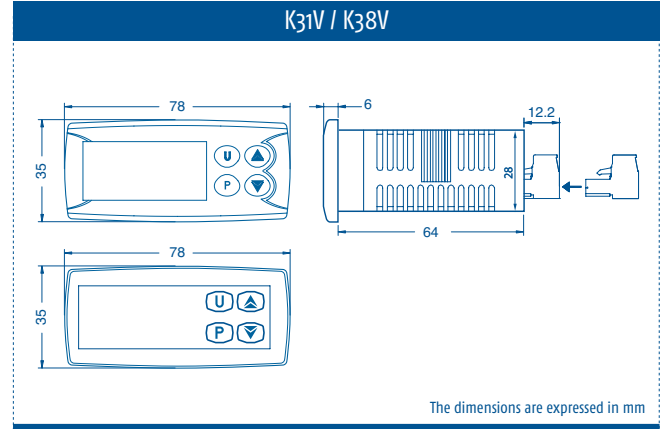
K31V	CODE
POWER SUPPLY	
12 Vac/Vdc	F
24 Vac/Vdc	L
100... 240 Vac/Vdc	H
INPUT	
TC, PT100, mV	C
TC, PTC, NTC, mV	E
0/4... 20mA	I
0... 1V, 0/1... 5V, 0/2... 10V	V
OUT 1	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
OUT 2	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
Not available	-
OUT 3	
Relay SPST-NO 5A-AC1	R
Vdc for SSR driving	0
Not available	-
OUT 4	
Relay SPST-NO 5A-AC1	R
Vdc for SSR driving	0
Not available	-
SERIAL COMMUNICATION	
RS485	S
TTL ModBus	-

K38V	CODE
POWER SUPPLY	
12 Vac/Vdc	F
24 Vac/Vdc	L
100... 240 Vac/Vdc	H
INPUT	
TC, PT100, mV	C
TC, PTC, NTC, mV	E
0/4... 20mA	I
0... 1V, 0/1... 5V, 0/2... 10V	V
OUT 1	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
OUT 2	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
Not available	-

CONNECTIONS



DIMENSIONS



THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

K 48V/85V

- INDICATORS
- UP TO 3 OUTPUTS FOR ALARM INDICATION
- RS485 OR TTL SERIAL COMMUNICATION



FEATURES

DISPLAY	K48V	K85V
Single	4 red digit, h 7mm	4 red digit, h 12 mm + 3 LEDs bargraph
INPUTS		
4 different configurations	Thermocouples (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermoresistances Pt 100 3 wires (-200... 850°C/-328... 1562°F)	
	Thermocouples J (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermistors PTC KTY 81-121 (990Ω at 25°C) (-55... 150°C/-67... 302°F) and Thermistors NTC 103AT-2 (10kΩ at 25°C) (-50... 110°C/-58... 230°F)	
	Linear signals 0/4... 20mA	
	Linear signals 0/10... 50mV, 0/12... 60mV, 0/1... 5V, 0/2... 10V	
Digital inputs	2 digital inputs for free voltage contacts, as alternative to Out 3	2 digital inputs for free voltage contacts
OUTPUTS		
Up to three	OUT1 and OUT2: Relay SPST-NO (8A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving OUT3: Relay SPST-NO (5A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving	OUT1 and OUT2: Relay SPDT (8A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving OUT3: Relay SPST-NO (5A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving
Auxiliary supply	12 Vdc/20 mA max.	
FUNCTIONAL		
Signal retransmission	--	Set point
Serial communication	TTL ModBus	RS485 with Modbus RTU protocol
Baud rate	--	1200... 38400 baud, programmable
GENERAL		
Power supply	24 Vac/Vdc, 100... 240 Vac/Vdc ± 10% (50/60 Hz)	
Power consumption	6 VA approx.	
Dimensions	48 x 48 mm (1/16 DIN) - depth 98 mm	4 DIN rail modules, 70 x 84 mm - depth 60 mm
Weight	180 g approx.	230 g approx.
Connections	Screw terminal block 2.5 mm ²	
Mounting	Flush in panel in 45 x 45 mm hole	On OMEGA DIN A rail
Front protection degree	IP65, mounted in panel with gasket	IP 40, for internal use
Operating / storage temperature	0... 50°C (32... 122°F)/-30... 70°C (-22... 158°F)	
Operating humidity	30... 95 RH% without condensation	
Conformity	Directive EMC 2004/108/CE (EN 61326-1), Directive BT 2006/95/CE (EN 61010-1)	

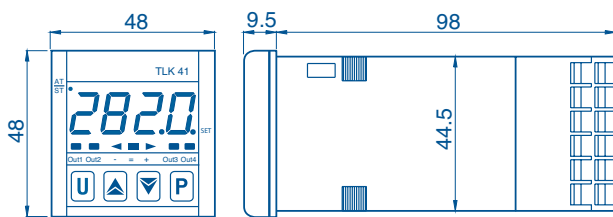
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

K48V / K85V	CODE
POWER SUPPLY	
12 Vac/Vdc	F
24 Vac/Vdc	L
100... 240 Vac/Vdc	H
INPUT	
TC, PT100, mV	C
TC, PTC, NTC, mV	E
0/4... 20mA	I
0... 1V, 0/1... 5V, 0/2... 10V	V
OUT 1	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
OUT 2	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
Not available	-
OUT 3	
2 digital inputs (K48V only)	D
Relay	R
Vdc for SSR driving	0
Not available	-

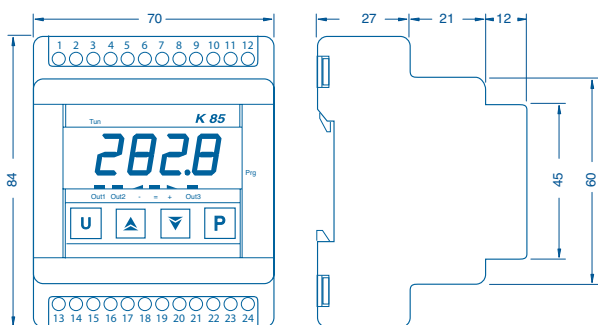
DIMENSIONS

K48V



The dimensions are expressed in mm

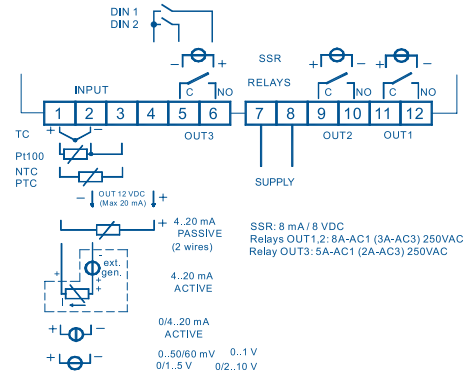
K85V



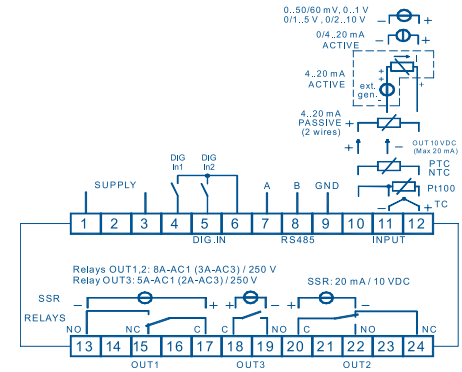
The dimensions are expressed in mm

CONNECTIONS

K48V



K85V



THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

E51V

- INDICATOR
- 1 PTC OR NTC INPUT
- SMALL DIMENSIONS



FEATURES

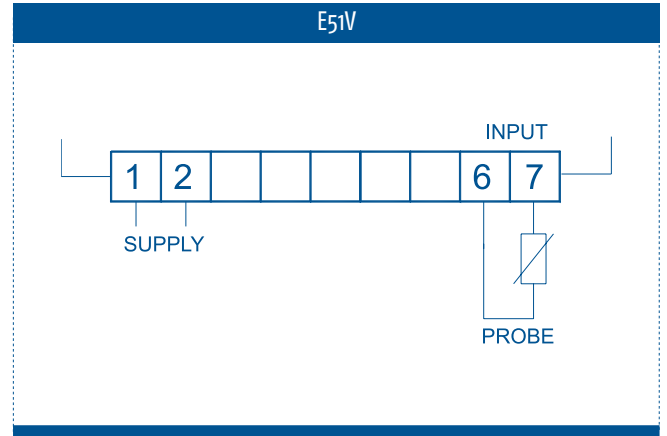
DISPLAY		E51V
Single		3 red digit, h 14 mm
INPUT		
One		Thermistors PTC KTY 81-121 (990Ω at 25°C) -50... +150°C (-58... +302°F) or Thermistors NTC 103AT-2 (10kΩ at 25°C) -50... +109°C (-58... +228°F)
Accuracy		± 0.5 % fs + 1 digit
GENERAL		
Power supply		12 Vac/Vdc, 115, 230 Vac ±10% (50/60 Hz)
Power consumption		3 VA approx.
Dimensions / Weight		68 x 35 mm - depth 50 mm / 105 g approx.
Connections		Screw terminal block 2.5 mm ²
Mounting		Flush in panel in 58 x 25 mm hole
Front protection degree		IP65, mounted in panel with gasket
Operating / storage temperature		0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity		30... 95 RH% without condensation
Conformity		Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9)

HOW TO ORDER

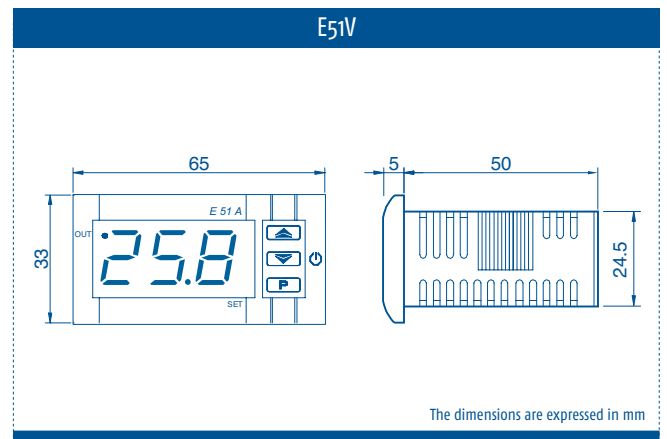
To compose the part number, pls. choose one of the option for each variable

E51V	CODE
POWER SUPPLY	
12 Vac/Vdc	F
115 Vac	C
230 Vac	D
INPUT	
PTC	P
NTC	N

CONNECTIONS



DIMENSIONS



TLCD

- LCD INDICATORS
- INTERNAL BATTERY SUPPLY
- WITH OR WITHOUT SOLAR CELL



FEATURES

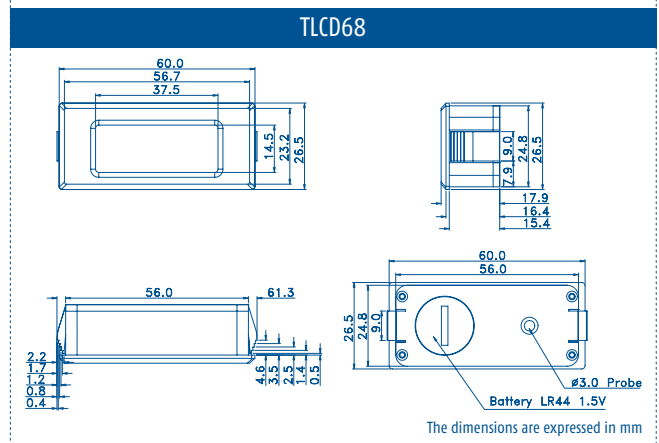
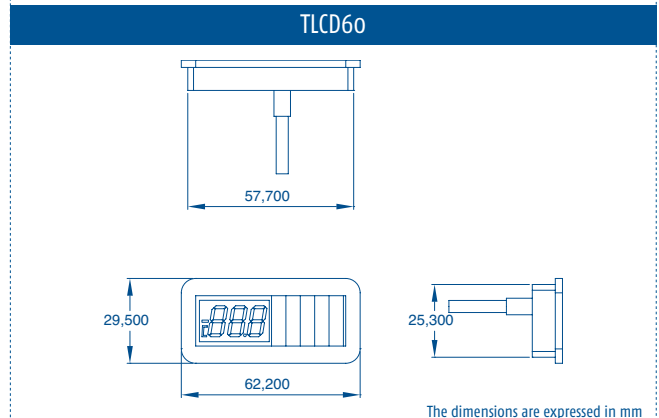
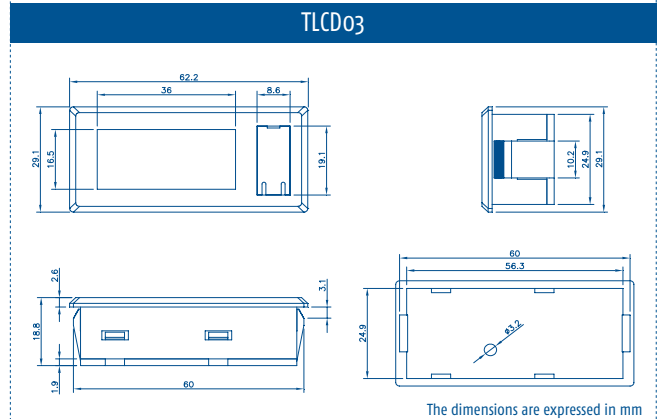
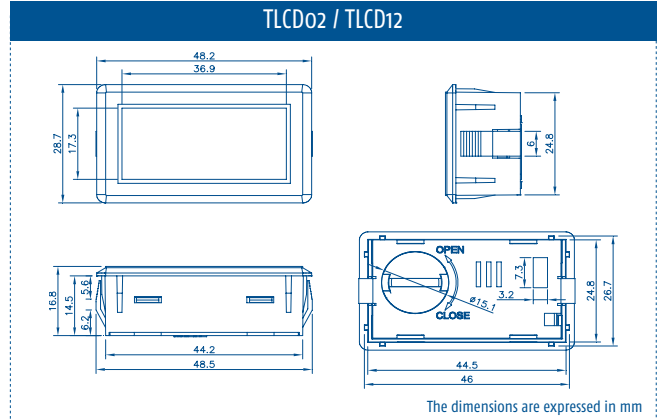
DISPLAY	TLCD 02	TLCD 12	TLCD 03	TLCD 05	TLCD 60	TLCD 68
Single LCD	2 digit	2 digit + decimal point	2 digit	2 digit + decimal point		
INPUT						
One	External temperature sensor, wired to the instrument through a cable					
Sensor's cable length	50cm, 2m, 3m	50cm, 3m	10cm, 1.5m, 3m, 6m	3m	75cm, 2m	40cm, 3m
Accuracy	± 1°C	± 1°C / ± 2°F	± 1°C		± 0.5°C	± 1°C
GENERAL						
Power supply	1.5 Vdc battery (LR44 or equivalent)			Solar cell and lithium battery (CR2032)	Solar cell	1.5 Vdc battery (LR44 or equivalent)
Power consumption	5 µA approx.					
Dimensions	48.2 X 28.7 mm, depth 16.8 mm		62.2 x 29.5 mm, depth 18.7 mm	105 x 38 mm, depth 12 mm	62.2 x 29.5 mm, depth 18.7 mm	60 x 26 mm, depth 15 mm
Mounting	Flush in panel					
Front protection degree	IP65					IP68
Battery location	Back side		Front side	Back side	--	Back side
Case colour	White or black			Grey	White or gray	Black
FUNCTIONAL						
Measuring range	-50... +70°C	-50.0... +70.0°C / -58.0°F...+158.0°F	-50... +70°C oppure -50... +100°C	-50... +70°C	-50.0... +99.9°C	-50... +70°C
Unit of measurement	°C	°C o °F, on request	°C			
Operating / storage temperature	0... +55°C (32... +311°F) / -30... 70°C (-22... 158°F)					
Operating humidity	30... 95 RH% without condensation					
Conformity	CE					

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

TLCD	CODE
DIMENSION AND MODEL	
48 x 28.6 mm - Battery on the back side	02
48 x 28.6 mm - Battery on the back side + Decimal point	12
62 x 29 mm - Battery on the front side	03
105 x 38 mm - Solar cell	05
62.2 x 29.5 mm - Solar cell	60
60 x 26 mm - IP68 Battery on the back side	68
SENSOR'S CABLE LENGHT	
10 cm (TLCD 03)	01
40 cm (TLCD 68)	04
50 cm (TLCD 02, TLCD 12)	05
1.5 m (TLCD 03)	A5
75 cm (TLCD 60)	A7
2 m (TLCD 02, TLCD 60)	20
3 m (excluded TLCD 60)	30
6 m (TLCD 03)	60
CASE COLOUR	
White (TLCD 02, TLCD 12, TLCD 03, TLCD 60)	W
Black (TLCD 02, TLCD 12, TLCD 03, TLCD 68)	B
Grey (TLCD 05, TLCD 60)	G
UNIT OF MEASUREMENT - RANGE	
°C - Range -50... +70°C	-
°F - Range -50... +70°F (TLCD 12)	FA
°C - Range -50... +100°C (TLCD 03)	H

DIMENSIONS



THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

TVRY

• REMOTE DISPLAY FOR CONTROLLERS
TLY SERIES



FEATURES

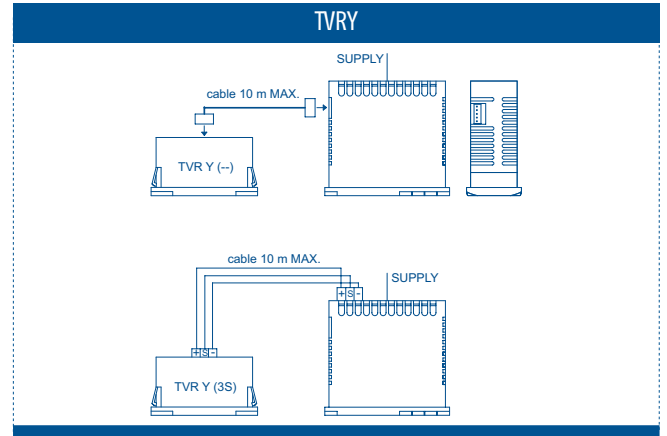
DISPLAY	TVRY
Single	2 1/2 red digit, h 14 mm
GENERAL	
Power supply	12 Vdc (directly supplied by the connected instrument)
Power consumption	1 VA approx. (to be added to the power consumption of the connected instrument)
Dimensions / Weight	64 x 31 mm, depth 30 mm / 35 g approx.
Connections	by means of suitable 5 pole connector or screw terminal block 1.5 mm ²
Mounting	Flush in panel in 59 x 25 mm hole
Front protection degree	IP65, mounted in panel with gasket
Operating / storage temperature	0... +50°C (32... +122°F) / -10... +60°C (14... +140°F)
Operating humidity	30... 95 RH% without condensation
Conformity	Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (Instrument working at a nominal voltage lower than 50 Vac and 75 Vdc)

HOW TO ORDER

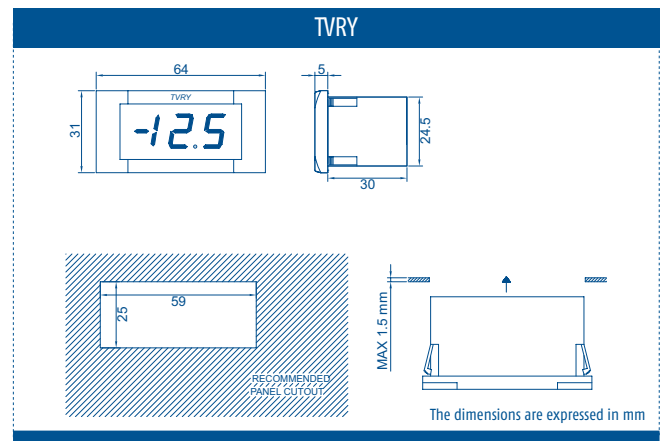
To compose the part number, pls. choose one of the option for each variable

TVRY	CODE
COMPATIBLE INSTRUMENT	
TLY series	Y
CONNECTION CABLE	
2 m	220
Without cable	-
CONNECTOR / FUNCTIONING MODE	
3 pole / slave	3S
5 pole / master	-

CONNECTIONS

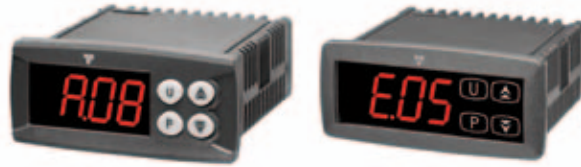


DIMENSIONS



X31L

- ALARMS/EVENTS INDICATORS
- SENSITIVE-TOUCH KEYBOARD
- UP TO 10 DIGITAL INPUTS



FEATURES

DISPLAY		X31L
Single		3 red or blue digit, h 15.5 mm
INPUTS		
Ten		10 digital inputs for free voltage contacts or voltage contacts (24 Vac/Vdc)
OUTPUT		
One, for alarm indication		OUT1: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2 HP 250 Vac, 1/3 HP 125 Vac)
Relay operations		100000 operations
FUNCTIONAL		
Acoustic alarm		Internal buzzer (optional)
GENERAL		
Power supply		24 Vac/Vdc, 100...240 Vac ±10% (50/60 Hz)
Power consumption		4 VA approx.
Dimensions / Weight		78 x 35 mm – depth 64 mm or 75.5 mm with plug-in terminals / 130 g approx.
Keyboard		Mechanical or "Sensitive Touch"
Connections		Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²
Mounting		Flush in panel in 71 x 29 mm hole
Front protection degree		IP65, mounted in panel with gasket
Operating / storage temperature		0... +50°C (32... +122°F) / -25... +60°C (-13... +140°F)
Operating humidity		30... 95 RH% without condensation
Conformity		Directive 2004/108/CE (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9)

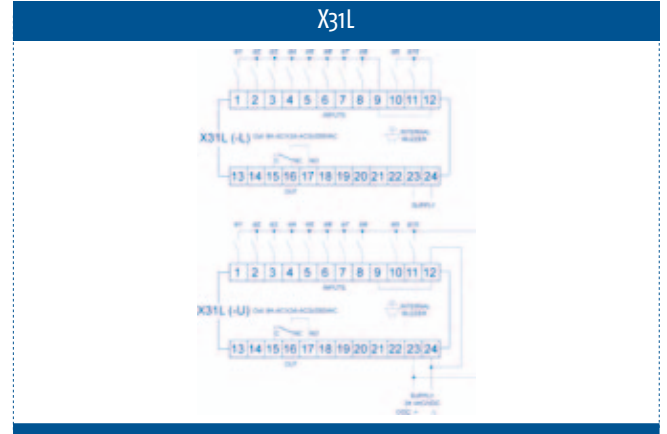
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

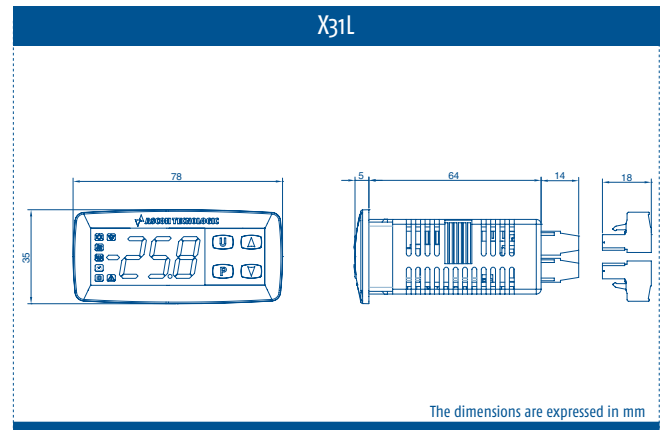
X31L	CODE
KEYBOARD	
Mechanical	-
Sensitive-Touch (*)	S
POWER SUPPLY	
24 Vac/Vdc	L
100... 240 Vac	H
INPUT	
For free voltage contacts	L
24 Vac/Vdc voltage contacts (24 V supply only)	U
OUT 1	
Relay SPDT 8A-AC1	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTIONS	
Plug-in screw type	E
Fix screw type (standard)	-
DISPLAY	
Blue	U
Red (standard)	-

(*) Capacitive Touch screen keyboard

CONNECTIONS



DIMENSIONS





SPECIAL CONTROLLERS AND "CUSTOM"



The only limit is your imagination...

Our production program includes many models that can be used in specific applications such as controllers for Peltier cells, differential controllers, multi-step controllers, milk tank controllers and also "custom" products to meet specific customer requirements.

SPECIAL CONTROLLERS

FEATURES		K31D	Y39D	TLK31C
Dimensions (mm)	78 x 35	•	•	•
	70 x 84			
	4 DIN rail module			
	75x122			
Single display		•	•	•
Digit		4	3	4
Inputs	Number of input	2	2	1
	PTC-NTC	•	•	
	Pt1000		•	
	TC J,K,S, IR + PT100			•
	TC J,K,S, IR + PTC, NTC			•
	0/4... 20mA			•
Relay outputs	0/10... 50mV, 0/12... 60mV, 0/1... 5V, 0/2... 10V			•
	Digital	2	1	2
		4	3	4
Voltage output 12... 24 Vdc and Vdc for SSR driving output (10mA/Vdc)				4
Power supply	12 Vac/Vdc	•	•	•
	12... 24 Vdc			
	24 Vac/Vdc	•	•	
	100... 240 Vac	•	•	
	ON/OFF		•	•
Control	ON/OFF, Neutral Zone, PID single and dual action	•		
	ON/OFF, Neutral Zone, proportional			•
	Peltier cells: PID dual action, Autotuning FAST, Selftuning algorithm, Fuzzy overshoot control			
RS485		•		•
Control function		Differential		Multi-step
CE certification		•	•	•
UL approval		•	•	•

	TLS35	WogD	TLK33	TLJ29M	TLJ35M
	•		•	•	•
	•	•	•	•	•
	4	3	4	4	4
	2	3	1	1	1
	•	•			
			•		
			•		
			•		
			•		
	1	1	2	1	1
	3	3		3	3
			2		
	•		•	•	•
	•		•	•	•
	•	•		•	•
	•	•		•	•
			•		
			•		
			•		
			•		
	Differential		For Peltier cells	For milk tanks	
	•	•	•	•	•
			•		

DIFFERENTIAL CONTROLLERS

- UP TO 3 INPUTS AND 4 OUTPUTS
- RS485 OR TTL SERIAL COMMUNICATION



FEATURES

	K31D	Y39D
DISPLAY		
Single	4 red digit, h 12 mm + 3 LEDs bargraph	3 red or blue digit, h 15.5 mm
INPUTS		
Two	2x Thermistors PTC KTY 81-121 (990Ω at 25°C): -55... +150°C / -67... +302 °F or 2x Thermistors NTC 103AT-2 (10kΩ at 25°C): -50... +110°C / -58... +230°F	2x Thermistors PTC KTY 81-121 (990Ω at 25°C): -50... +150°C / -58... +302 °F or 2x Thermistors NTC 103AT-2 (10kΩ at 25°C): -50... +109°C / -58... +228 °F or 2x Thermoresistances Pt1000 (1000Ω at 0°C): -99.9... +500°C / -148... +932°F
Digital inputs	2 digital inputs for free voltage contacts	1 digital input for free voltage contacts as alternative to inputs Pr3
Accuracy	± 0.5 % fs + 1 digit; tc S ± 1% fs + 1 digit	± 0.5 % fs + 1 digit
OUTPUTS		
Up to 4 (K31D) or Up to 3 (Y39D)	OUT1 and OUT2: Relay SPDT (8A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving OUT3 and OUT4: Relay SPST-NO (5A-AC1, 3A-AC3/250 Vac) or 12V ± 20% 20 mA max. for SSR driving	OUT1: Relay SPST-NO (16A-AC1, 6AAC3 250 Vac, 1 HP 250 Vac, 1/2 HP 125 Vac) OUT2: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2 HP 250 Vac, 1/3 HP 125 Vac) OUT3: Relay SPST-NO (5A-AC1, 2A-AC3 250 Vac, 1/8 HP 250-125 Vac). 16 A max. for common relay (term. 1), 12 A max for plug-in version
FUNCTIONAL		
Control	ON/OFF, Neutral zone, PID single and dual action, programmable	ON/OFF
Real Time Clock	--	Internal clock to manage defrosting at programmed times
Serial communication	RS485 with Modbus RTU protocol	TTL ModBus
Baud rate	1200... 38400 baud, programmable	--
GENERAL		
Power supply	12 Vac/Vdc, 24 Vac/Vdc, 100... 240 Vac/Vdc ± 10% (50/60 Hz)	
Power consumption	4 VA approx.	
Dimensions	78 x 35 mm - depth 64 mm or 75.5 mm with plug-in terminals	
Weight	150 g approx.	130 g approx.
Keyboard	Mechanical	Mechanical or "Sensitive Touch"
Connections	Screw terminal block 2.5 mm ² or plu-in connector with screw terminals 2.5 mm ²	
Mounting	Flush in panel in 71 x 29 mm hole	
Front protection degree	IP65, mounted in panel with gasket	
Operating / storage temperature	0... 50°C (32... 122°F) / -30... 70°C (-22... 158°F)	
Operating humidity	20... 85 RH% without condensation	
Conformity	Directive EMC 2004/108/CE (EN 61326-1), Directive BT 2006/95/CE (EN 61010-1)	

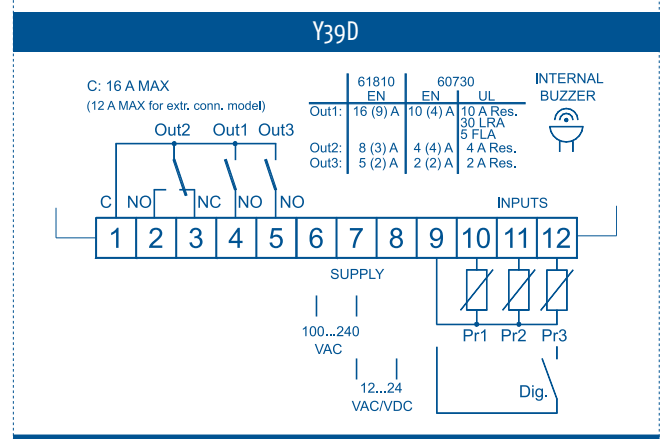
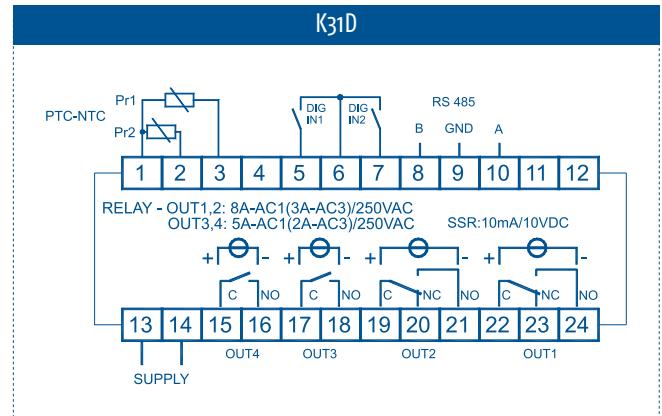
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

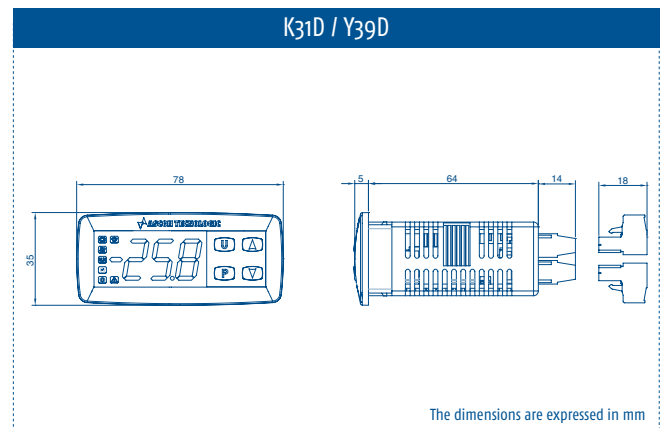
K31D	CODE
POWER SUPPLY	
12 Vac/Vdc	F
24 Vac/Vdc	L
100... 240 Vac/Vdc	H
INPUT	
2 inputs for PTC/NTC sensors	2
OUT 1	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
OUT 2	
Relay SPDT 8A-AC1	R
Vdc for SSR driving	0
Not available	-
OUT 3	
Relay SPST-NO 5A-AC1	R
Vdc for SSR driving	0
Not available	-
OUT 4	
Relay SPST-NO 5A-AC1	R
Vdc for SSR driving	0
Not available	-
SERIAL COMMUNICATION	
RS485	S
TTL Modbus	-

Y39D	CODE
KEYBOARD	
Sensitive Touch (*)	S
Mechanical	-
POWER SUPPLY	
12 V AC/DC	F
12... 24 V AC/DC	G
100... 240 V AC	H
OUT 1	
Relay SPST-NO-16A-AC1	R
OUT 2	
Relay SPDT 5A-AC1	R
Not available	-
OUT 3	
Relay SPDT 5A-AC1	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTIONS	
Plug-in screw type	E
Fix screw type (standard)	-
DISPLAY	
Blue	B
Red (standard)	-
REAL TIME CLOCK	
Available	C
Not available	-

CONNECTIONS



DIMENSIONS



THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

DIFFERENTIAL CONTROLLERS

- UP TO 3 INPUTS AND 3 OUTPUTS
- TTL SERIAL COMMUNICATION



FEATURES

	TLS35	W09D
DISPLAY		
Single	4 red digit, h 12 mm	3 red or blue digit, h 15.5 mm
INPUTS		
Two (TLS35)	2x Thermistors PTC KTY 81-121 (990Ω at 25 °C): -50... +150°C / -58... +302 °F oppure	3x Thermistors PTC KTY 81-121 (990Ω at 25 °C): -50... +150°C / -58... +302 °F ore
Three (W09D)	2x Thermistors NTC 103AT-2 (10KΩ at 25 °C): -50... +109°C / -58... +228 °F	3x Thermistors NTC 103AT-2 (10KΩ at 25 °C): -50... +109°C / -58... +228 °F
Digital inputs	1 digital input for free voltage contacts	1 digital input for free voltage contacts as alternative to inputs P3
Accuracy	± 0.5 % fs + 1 digit	
OUTPUTS		
Up to 3	OUT1: Relay SPST-NO (16A-AC1, 6A- AC3 250 Vac, 1HP 250Vac, 1/2HP 125 Vac) o SPDT (16A-AC1- NO, 8A-AC1-NC, 6A-AC3 250 Vac,1HP 250Vac, 1/2HP 125 Vac) OUT2 and OUT3: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2HP 250Vac, 1/3HP 125 Vac)	OUT1: Relay SPST-NO (14A-AC1, 6AA3 250 Vac, 1 HP 250 Vac, 1/2 HP 125 Vac) OUT2: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2 HP 250 Vac, 1/3 HP 125 Vac) OUT3: Relay SPST-NO (4A-AC1, 2A-AC3 250 Vac, 1/8 HP 250-125 Vac). 16 A max. for common (term. 12)
FUNCTIONAL		
Control		ON/OFF
Real Time Clock	--	Internal clock to manage defrosting at programmed times
Serial communication		TTL ModBus
GENERAL		
Power supply	12 Vac/Vdc, 24 Vac/Vdc, 100... 240 Vac/Vdc ± 10% (50/60 Hz)	100... 240 Vac ±10% (50/60 Hz)
Power consumption	5 VA approx.	4 VA approx.
Dimensions	4 DIN rail module 70 x 84 mm, depth 60 mm	75 x 122 mm, depth 34 mm
Weight	180 g	135 g
Keyboard	Mechanical	
Connections	On OMEGA DIN A rail	
Mounting	Screw terminal block 2.5 mm ²	
Front protection degree	IP 40 (IP20 on terminal block)	
Operating / storage temperature	0... 50°C (32... 122°F) / -30... 70°C (-22... 158°F)	
Operating humidity	20... 85 RH% without condensation	
Conformity	Directive EMC 2004/108/CE (EN 61326-1), Directive BT 2006/95/CE (EN 61010-1)	

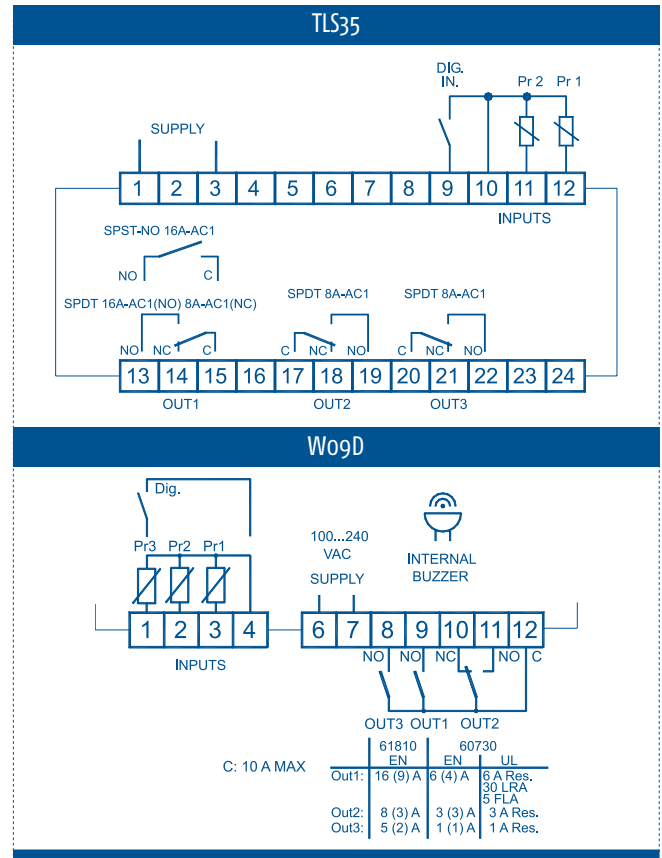
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

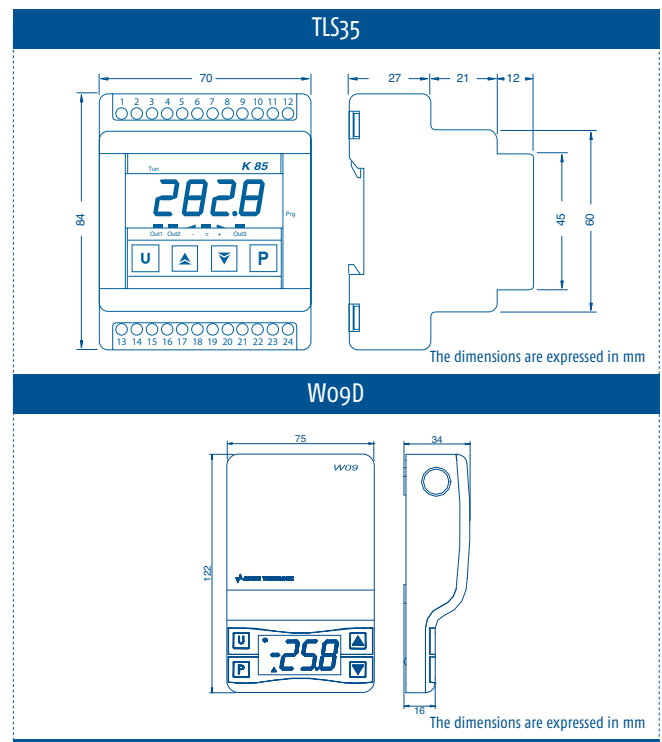
TLS35	CODE
POWER SUPPLY	
24 Vac/Vdc	L
90...240 Vac	H
12 Vac/Vdc	F
OUT 1	
Relay SPDT 16A AC1	S
Relay SPST-NO-16A AC1	R
OUT AL1	
Relay SPST-NO-8A AC1	R
Not available	-
OUT AL2	
Relay SPST-NO-8A AC1	R
Not available	-

WogD	CODE
POWER SUPPLY	
100...240Vac	H
OUT 1	
Relay SPDT-8A-AC1	R
OUT 2	
Relay SPDT-8A-AC1	R
Not available	-
OUT 3	
Relay SPST-NO 5A-AC1	R
Not available	-
BUZZER (INTERNAL)	
Available	B
Not available	-
CONNECTIONS	
Fix screw type	-
DISPLAY	
Blue	B
Red (standard)	-
REAL TIME CLOCK	
Available	C
Not available	-

CONNECTIONS



DIMENSIONS



MULTI-STEP CONTROLLER

- 4 OUTPUTS
- RS485



FEATURES

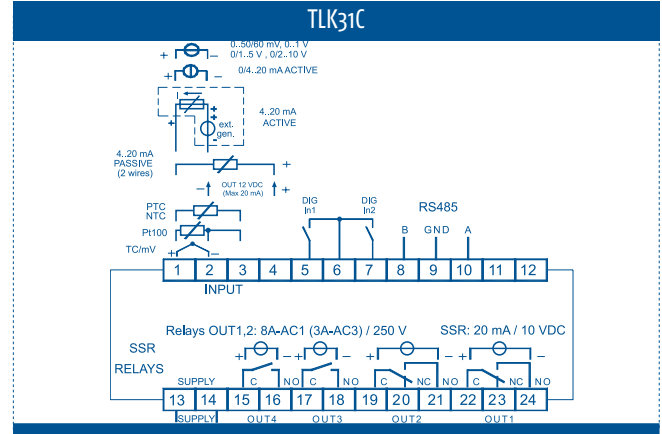
DISPLAY		TLK31C
Single		4 red digit, h 12 mm + 3 LEDs Bargraph
INPUTS		
4 different configurations		Thermocouples (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermoresistances Pt 100 3 wires (-200... 850°C/-328... 1562°F)
		Thermocouples J (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermistors PTC KTY 81-121 (990Ω at 25°C) (-55... 150°C/-67... 302°F) and Thermistors NTC 103AT-2 (10kΩ at 25°C) (-50... 110°C/-58... 230°F)
		Linear signals 0/4... 20mA
		Linear signals 0/10... 50mV, 0/12... 60mV, 0/1... 5V, 0/2... 10V
Digital inputs		2 digital inputs for free voltage contacts
Accuracy		± 0.5% span ±1 digit, Tc S : ±1% span ±1 digit
OUTPUTS		
Up to 4		OUT 1 and OUT 2: Relay SPDT 8A-AC1, 3A-AC3/250 VAC or 8mA/8VDC for SSR driving OUT 2 and OUT 3: Relay SPST-NO 8A-AC1, 3A-AC3/250 VAC or 8mA/8VDC for SSR driving
Auxiliary supply		12 Vdc/20 mA max.
FUNCTIONAL		
Control		ON/OFF, Neutral zone, Proportional
Set Point		4 Set Points programmable
Serial communication		RS485 with Modbus RTU protocol
Baud rate		1200... 38400 baud, programmable
GENERAL		
Power supply		12 Vac/Vdc ±10%
Power consumption		4 VA approx.
Dimensions / Weight		78 x 35 mm - depth 64 mm / 150 g approx.
Connections		Screw terminal block 2.5 mm ²
Mounting		Flush in panel in 71 x 29 mm hole
Front protection degree		IP65, mounted in panel with gasket
Operating / storage temperature		0... 50°C (32... 122°F) / -30... 70°C (-22... 158°F)
Operating humidity		20... 85 RH% without condensation
Conformity		Directive EMC 2004/108/CE (EN 61326-1), Directive BT 2006/95/CE (EN 61010-1)

HOW TO ORDER

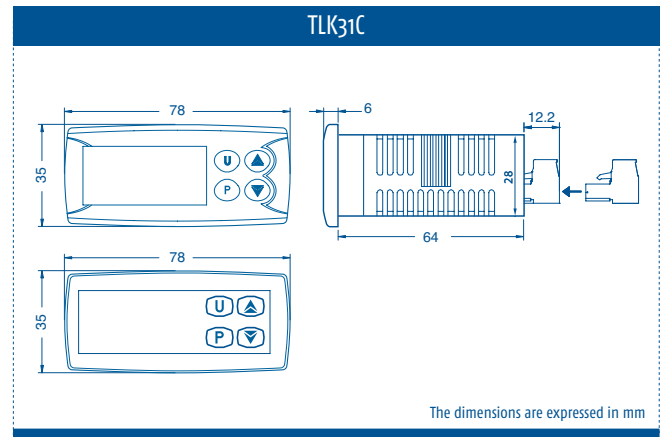
To compose the part number, pls. choose one of the option for each variable

TLK31C	CODE
INPUT	
PT100 + TC (J,K,S,IRS), mV	D
PTC,NTC, mV + TC (J,K,S,IRS)	E
0/4... 20mA	I
0/1... 5V, 0/2... 10V	V
OUT 1	
Relay 8A SPDT	R
Vdc for SSR driving	0
OUT 2	
Relay 8A SPDT	R
Vdc for SSR driving	0
Not available	-
OUT 3	
Relay 8A SPST-NO	R
Vdc for SSR driving	0
Not available	-
OUT 4	
Relay 8A SPST-NO	R
Vdc for SSR driving	0
Not available	-
SERIAL COMMUNICATION	
RS485	S
Not available	-
DIGITAL INPUTS	
2 digital inputs	I
Not available	-

CONNECTIONS



DIMENSIONS



PELTIER CELLS CONTROLLER

- PID CONTROL
- UP TO 2 OUTPUTS
- RS485



FEATURES

DISPLAY		TLK33
Single		4 red digit, h 12 mm
INPUTS		
4 different configurations		Thermocouples (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermoresistances Pt 100 3 wires (-200... 850°C/-328... 1562°F)
		Thermocouples J (0... 1000°C/32... 1832°F), K (0... 1370°C/32... 2498°F), S,R (0... 1760°C/32... 3200°F), T (0... 400°C/32... 752°F) and Infrared sensors J or K type + Thermistors PTC KTY 81-121 (990Ω at 25°C) (-55... 150°C/-67... 302°F) and Thermistors NTC 103AT-2 (10kΩ at 25°C) (-50... 110°C/-58... 230°F)
		Linear signals 0/4... 20mA
		Linear signals 0/10... 50mV, 0/12... 60mV, 0/1... 5V, 0/2... 10V
Digital inputs		2 digital inputs for free voltage contacts
Accuracy		± 0,5% span ±1 digit, Tc S :±1% span ±1 digit
OUTPUTS		
Up to 2, in voltage to direct drive Peltier cells		12... 24 Vdc (equal to power supply) to direct drive Peltier cells max. 7A; up to 2 alarm outputs in voltage for SSR driving (10mA/ 10Vdc)
Auxiliary supply		12 Vdc / 20 mA max.
FUNCTIONAL		
Control		PID dual action, Autotuning FAST, Selftuning algorithms, Fuzzy overshoot control
Set Point		4 Set Points programmable
Serial communication		RS485 with Modbus RTU protocol
Baud rate		1200... 38400 baud, programmable
GENERAL		
Power supply		12... 24 Vdc ±10%
Power consumption		4 VA approx.
Dimensions / Weight		78 x 35 mm - depth 75.5 mm / 130 g approx.
Connections		Screw terminal block 2.5 mm ²
Mounting		Flush in panel in 71 x 29 mm hole
Front protection degree		IP65, mounted in panel with gasket
Operating / storage temperature		0... 50°C (32... 122°F) / -30... 70°C (-22... 158°F)
Operating humidity		20... 85 RH% without condensation
Conformity		Directive EMC 2004/108/CE (EN 61326-1), Directive BT 2006/95/CE (EN 61010-1)

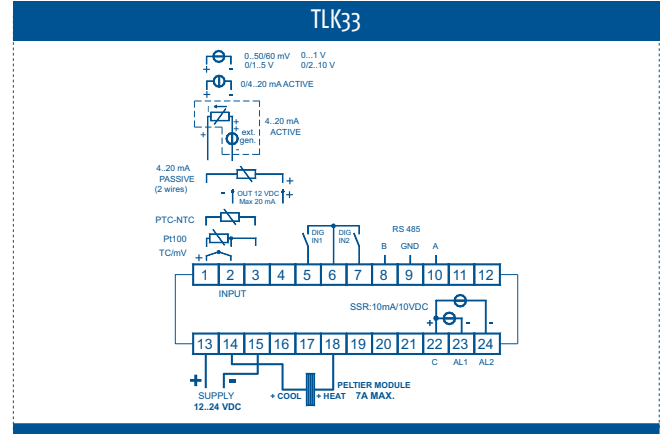
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

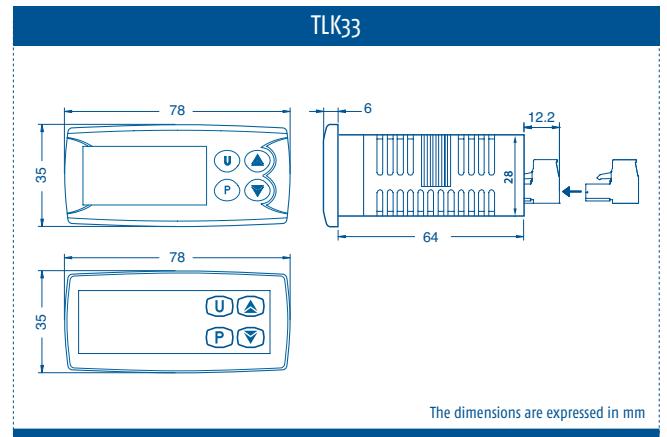
TLK33	CODE
POWER SUPPLY	
12... 24 Vdc	G
INPUT	
PT100 + TC (J,K,S,IRS), mV	D
PTC,NTC,mV + TC (J,K,S,IRS)	E
0/4... 20mA	I
0/1... 5V, 0/2... 10V	V
CONTROL OOUTPUTS (2 FOR SSR)	
12... 24 Vdc for Peltier cells (7A max)	0
OUT AL1	
Vdc for SSR driving	0
Not available	-
OUT AL2	
Vdc for SSR driving	0
Not available	-
SERIAL COMMUNICATION	
RS485 + 2 digital inputs	S
Not available	-
DIGITAL INPUT	
Available	I
Not available	-

TLK33 : When the RS485 is required, 2 digital inputs are always on board too.

CONNECTIONS



DIMENSIONS



The dimensions are expressed in mm

THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

MILK TANK CONTROLLERS

- TEMPERATURE AND AGITATOR CONTROL
- 1 INPUT AND UP TO 3 OUTPUTS



FEATURES

DISPLAY	TLJ29M	TLJ35M
Single	4 red digit, h 12 mm	
INPUTS		
One	Thermistors PTC KTY 81-121 (990Ω at 25°C): -50... +150°C (-58... +302°F) or Thermistors NTC 103AT-2 (10kΩ at 25°C): -50... +109°C (-58... 228°F)	
Digital inputs	1 digital input for free voltage contacts	
Accuracy	± 0.5% span + 1 digit	
OUTPUTS		
Up to 3	OUT1: Relay SPST-NO (16A-AC1, 6A-AC3 250 Vac) OUT2 agitator: Relay SPDT (8A-AC1, 3A-AC3 250 Vac) OUT3: Relay SPSTNO (5A-AC1, 2A-AC3 250 Vac) 16 A max. for Common (term. 1)	OUT1: Relay SPST-NO (16A-AC1, 6AAC3 250 Vac, 1HP 250Vac, 1/2HP 125 Vac) or SPDT (16A-AC1-NO, 8A-AC1-NC, 6A-AC3 250 Vac, 1HP 250Vac, 1/2HP 125 Vac) OUT2 agitator: Relay SPDT (8A-AC1, 3A-AC3 250 Vac, 1/2HP 250Vac, 1/3HP 125 Vac) OUT3: Relay SPST-NO (8A-AC1, 3A-AC3 250 Vac, 1/2HP 250Vac, 1/3HP 125 Vac)
Relay operations	OUT SPST-NO: 100000 operations, OUT SPDT: 50000 operations	OUT SPST-NO: 100000 operations, OUT SPDT: 50000 operations (VDE), AGIT and OUT4: 100000 operations
FUNCTIONAL		
Control	ON/OFF	
Agitator control	With automatic or manual cycle	
Acoustic alarm	Internal buzzer (optional)	
GENERAL		
Power supply	12 Vac/Vdc, 24 Vac/Vdc, 100... 240 Vac ±10% (50/60 Hz)	
Power consumption	4 VA approx.	
Dimensions / Weight	78 x35 mm, depth 64 mm / 115 g approx.	70 x 84 x 60 mm, 4 DIN rail module / 180 g approx.
Mounting	Flush in panel in 71 x 29 mm hole	On OMEGA DIN A rail
Connections	Screw terminal block 2.5 mm ²	
Front protection degree	IP65, mounted in panel with gasket	IP20
Operating / storage temperature	0... 50°C (32... 122°F) / -30... 70°C (-22... 158°F)	
Operating humidity	30... 95 RH% without condensation	
Conformity	Directive EMC 2004/108/CE (EN 61326-1), Directive BT 2006/95/CE (EN 61010-1)	Directive 2004/108/CE (EN 61326; EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 61010-1, EN 60730-1, EN 60730-2-7, EN 60730-2-9)

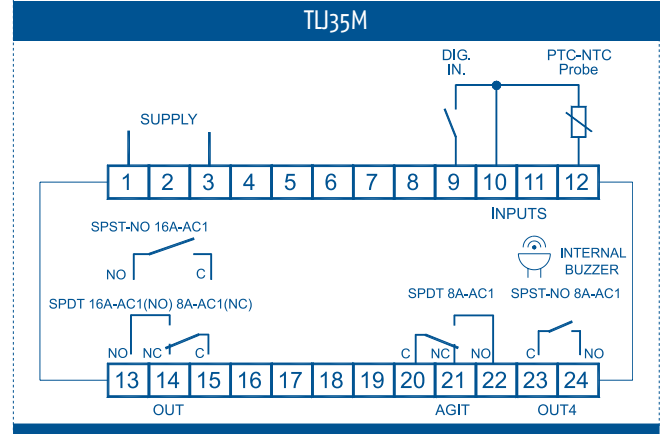
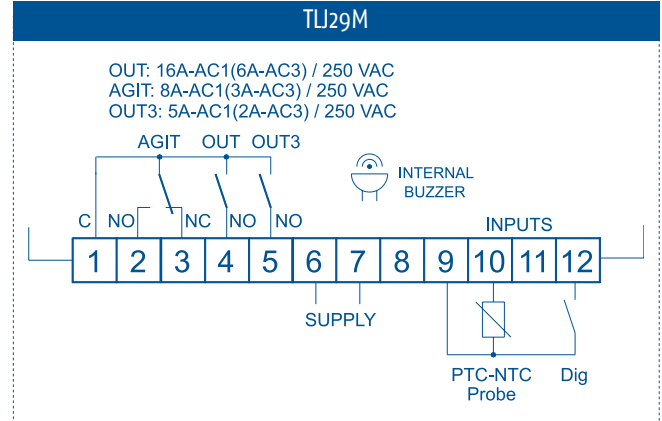
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

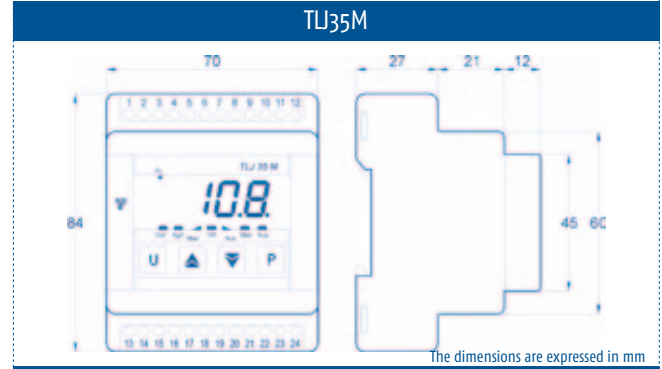
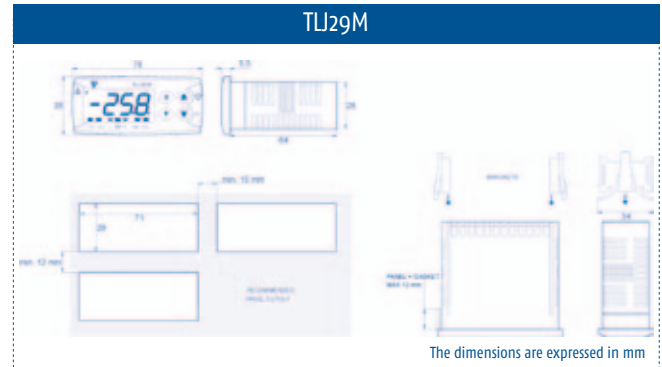
TLJ29 M	CODE
POWER SUPPLY	
24 Vac/Vdc	L
90...240 Vac	H
12 Vac/Vdc	F
OUT 2	
Relay	R
OUT 3	
Relay	R
Not available	-
BUZZER	
Available	B
Not available	-

TLJ35 M	CODE
POWER SUPPLY	
24 Vac/Vdc	L
90...240 Vac	H
12 Vac/Vdc	F
OUT 1	
Relay SPDT 16A AC1	S
Relay SPST-NO-16A AC1	R
BUZZER	
Available	B
OUT 3	
Relay	R
OUT 4	
Relay	R
Not available	-

CONNECTIONS



DIMENSIONS



THERMOSTATS AND CONTROLLERS

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PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

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I/O MODULES

SUPERVISION

ACCESSORIES



PAC SYSTEMS



The right solution for every application!

New generation of programmable controllers (PAC – Programmable Automation Controller). They manage the control, the monitoring and permit the remote control of machines and small industrial plants.

Within Sigma2 line, two hardware solutions are available: one modular and distributed (SigmaPAC: CU02) and one compact (MicroPAC: M81, MP02).

PAC SYSTEMS

FEATURES		M81
Dimensions (mm)	10 moduli DIN (175 x 110 mm)	•
	8 moduli DIN (152 x 110 mm)	
Inputs (16 bit)	Ingresso universale	
	NTC-PT1000	8
	0/4... 20 mA, 0/1... 5V, 0... 10V	4
	Digitali	12
	Potenziometro Raziometrico (5V)	1
Relay or voltage outputs		10
Analogue outputs (current or voltage)		
Analogue outputs (voltage only)		4
Power supply	24 Vac/Vdc	•
	24 Vdc	
Control	ON/OFF, PID con Autotuning avanzato	•
	Controllo Attuatori motorizzati	•
Processor ARM 32 bit		•
16 MB RAM, 2MB program and 64 KB flash		•
USB port		•
Real Time Clock		•
Ethernet port (communication, programming, configuration)		•
RS485 port		•
RS232 port		1
Modbus RTU (Master/Slave) protocol, Modbus TCP Server, ASCII		•
Profibus DP		
Programming languages : IL, ST, FBD, LD, SFC, CFC		•
Advanced libraries dedicated to process control		•
CE certification		•
UL approval (listed)		

(*) with expansion units - see hereunder models

Digital expansion units:

MPD10808 (8 inputs 24 Vdc + 8 outputs 24 Vdc, 0.5A)

MPD11616 (16 inputs 24 Vdc + 16 outputs 24 Vdc, 0.5A)

MPD20808 (8inputs 24 Vdc + 8 relays outputs 2A)

MPD40808 (8 inputs 120 Vac + 8 relays outputs 2A)

	MP02	CU02
	•	•
	2	
	6+2	
	8 + 32 (*)	1
	2	
	8+32 (*)	2
	4	
	•	•
	•	•
	•	•
	•	•
	•	•
	•	•
	•	•
	•	•
	1	2
	•	•
	•	•
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	•	•
	•	•

THERMOSTATS
AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS
AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED
SYSTEMS

PLC AND
OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

M81 SIGMA2

- COMPACT PROGRAMMABLE CONTROLLER (MICROPAC)
- 8 + 4 A/I
- 12 D/I + 10 D/O
- 4 A/O



FEATURES

INPUTS	
	M81
12 Analogue	8x Thermistors NTC 103AT-2, Thermoresistances Pt1000 and 4x Linear signals 0/1... 5V, 0/2... 10V, 0/4... 20 mA, ratiometrics Resolution: 16 bit Accuracy: 0.5% of span Input impedance >100kΩ (V); 300Ω (mA) Insulation 2500V channels to power supply and channels to logic (High level analogue signals) Insulation 800 V between power supply and logic (Sensors)
12 Digital	12 digital inputs for free voltage contacts Insulation 800 V between power supply and logic Compliant to IEC/EN 61131-2 (type 1)
OUTPUTS	
4 Analogue	4x 0... 10 V Resolution 16 bit Accuracy: 0.5% of span Load >1kΩ Insulation 800 V between power supply and logic
10 Digital	10 relay digital outputs channels (2 relays SPDT-5A, 8 relays SPST-NO 2A) Insulation 2500V channels to power supply and channels to logic
FUNCTIONAL	
Processor	ARM 32 bit
Memory	16 MB of RAM system, application memory max. 2 MB internal + 3.5 MB on USB key 64 kB redundant FLASH memory
Programming languages	IL, ST, FBD, LD, SFC, CFC
Standard	IEC61131-3
Real time clock	on board
Minimum time of cycle execution	10ms
Serial ports	Ethernet + RS485 + RS232/485
Protocols	Modbus RTU (Master/Slave), Modbus TCP Server, ASCII
GENERAL	
Power supply	24 Vac/Vdc (-15... +25%) (50/60 Hz)
Power consumption	13 VA (+6.5 VA with I/O modules)
Dimensions / Weight	175 x 110 mm, depth 60 mm / 450 g approx.
Mounting	On OMEGA DIN A rail
Front protection degree	IP 20
Operating / storage temperature	0... 50°C (32... 122°F) / -40... +70°C (-40... 158°F)
Operating humidity	5... 95 RH% without condensation

HOW TO ORDER

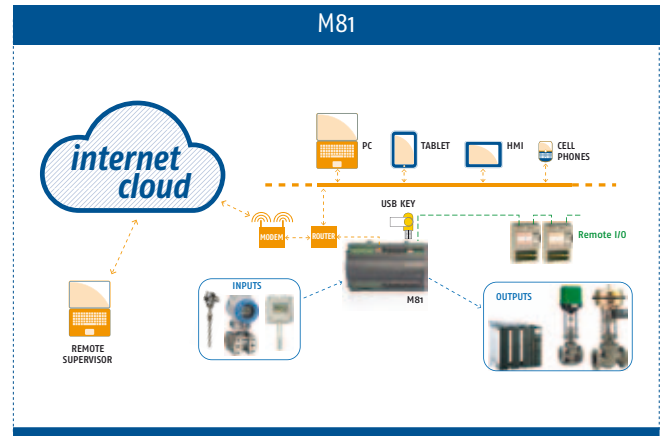
To compose the part number, pls. choose one of the option for each variable

M81	CODE
ANALOGUE INPUTS	
0/4... 20mA	-
0/5 Volt, ratiometrics	5
OUT 1	
Relay SPDT 5A	R
Vdc for SSR driving	0
SSR 2A 250 Vac	Q
OUT 2	
Relay SPDT 5A	R
Vdc for SSR driving	0
SSR 2A 250 Vac	Q
OUT 7...10	
Relay SPST 2A	R
Not available	-
ANALOGUE OUTPUTS 1...4	
0... 10V	V
Not available	-
USB PORT	
Available	U
Not available	-
COMMUNICATION PORTS	
COM 1 RS485/232	1
COM1 RS485/232 + COM2 RS485	2
RESERVED PART NO.	
-	-
CONNECTIONS	
Plug-in screw type	E
Plug-in screw type, fix part only	N

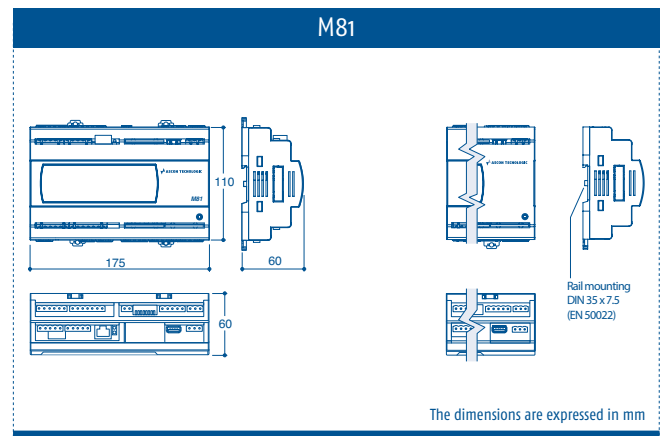
ACCESSORIES

CABLES	
APS2 CABLECUPROG	ETHERNET CABLE 2M, PROGRAMM. CU, PC-RJ45/CU-RJ45
POWER ADAPTORS	
APS2 ALDR75-24	POWER ADAPTOR 3.2 A
APS2 ALDR12024	POWER ADAPTOR 5 A

CONNECTIONS



DIMENSIONS



MP02 SIGMA2

• COMPACT PROGRAMMABLE CONTROLLER (MICROPAC) + ON BOARD I/O AND EXPANSION CAPABILITY

- 8 A/I + 8 D/I
- 4 A/O + 8 D/O

FEATURES



MP02	
INPUTS	
6 analogue	6x 0...10V, 0/1...5V, 0...1V - 0/4...20mA
	Resolution: 16 bit
	Accuracy: 0.1% of span
	Input impedance >100kΩ (V); 300Ω (mA)
2 universal analogue	Insulation 800 V between power supply and logic
	±15 mV, ± 35mV, ±50 mV, ±100 mV, ±300 mV, ±1.25 V, TC (L, J, T, K, S, R, N), Pt100, Pt1000 and potentiometer (0.1... 10kΩ)
	Resolution: 16 bit
	Accuracy: 0.1% of span
8+32 digital	Input impedance >10 MΩ (V)
	Insulation 800 V between power supply and logic
	40 Vpp between the channels (differential inputs)
	8 + 32 (with expansion units) 24 Vdc (ON: 5...30V, OFF: 0..3V) or 8 + 8/16 max. 120 Vac
OUTPUTS	Counter input 80 Hz max. frequency
	Sink type
	Protection: Reverse polarity and overvoltage
	Insulation 800 V between power supply and logic
0/2/4 analogue	±10 V (±25 mA max.), 0/4... 20 mA
	Resolution: 13 bit
	Accuracy: 0.1% of span
	Insulation 800 V between power supply and logic
8+32 Digital	8 + 32 (with expansion units) 24Vdc, 0.5 A or 8 + 8/16 relays (2A, 240 Vac, NA)
	Source type (PNP)
	Protection: Reverse polarity and short circuit
	Insulation 800V between channels and power supply
FUNCTIONAL	
Processor	ARM 32 bit
Memory	16 MB of RAM system, application memory max. 2 MB internal, 64 kB redundant FLASH memory
Programming languages	IL, ST, FBD, LD, SFC, CFC
Standard	IEC61131-3
Real time clock	on board
Execution cycle Minimum time	≥5ms (10ms typical)
Serial ports	Ethernet + RS485 + RS232/485
Protocols	Modbus RTU (Master/Slave), Modbus TCP Server, ASCII
GENERAL	
Power supply	24 Vdc (-15... +25%) / 50/60 Hz
Power consumption	13 VA (+3.5 VA with both expansion units)
Dimensions / Weight	152 x 110 mm, depth 66 mm / 460 g approx.
Mounting	On OMEGA DIN A rail
Front protection degree	IP 20
Operating / storage temperature	0... 50°C (32... 122°F) / -40... +70°C (-40... 158°F)
Operating humidity	5... 95 RH% without condensation

Note: MP02 unit can be expanded up to 2 I/O modules through the side connector and via one of the RS485 ports by using the Modbus I/O modules.

Digital expansion units:

MPD10808 (8 inputs 24 Vdc + 8 outputs 24 Vdc, 0.5A)

MPD11616 (16 inputs 24 Vdc + 16 outputs 24 Vdc, 0.5A)

MPD20808 (8inputs 24 Vdc + 8 relays outputs 2A)

MPD40808 (8 inputs 120 Vac + 8 relays outputs 2A)

HOW TO ORDER

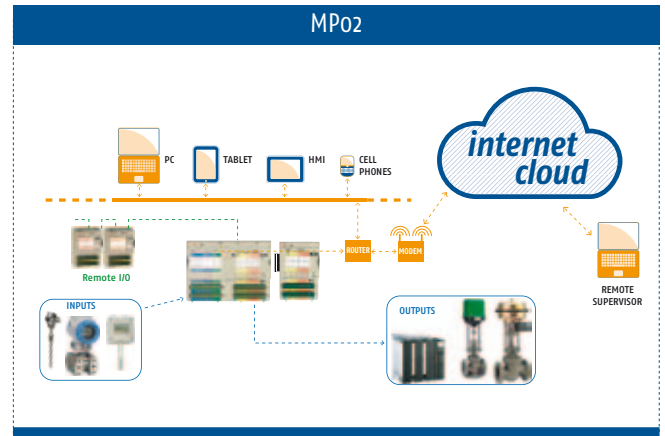
To compose the part number, pls. choose one of the option for each variable

MPo2	CODE
ANALOGUE INPUTS	
6 ch - 0/4... 20mA, Volt	0
8 ch - 0/4... 20mA, Volt	1
6 ch - 0/4... 20mA, Volt + Universal channels	2
RESERVED PART NO.	
-	-
RESERVED PART NO.	
-	-
RESERVED PART NO.	
-	-
ANALOGUE OUTPUTS 1...4	
Not available	0
2 ch. - 0/4... 20mA, Volt	1
4 ch. - 0/4... 20mA, Volt	2
USB PORT	
Not available	-
COMMUNICATION PORTS	
COM1 RS485/232 + COM2 RS485	2
RESERVED PART NO.	
-	-
CONNECTIONS	
Clamp type	M

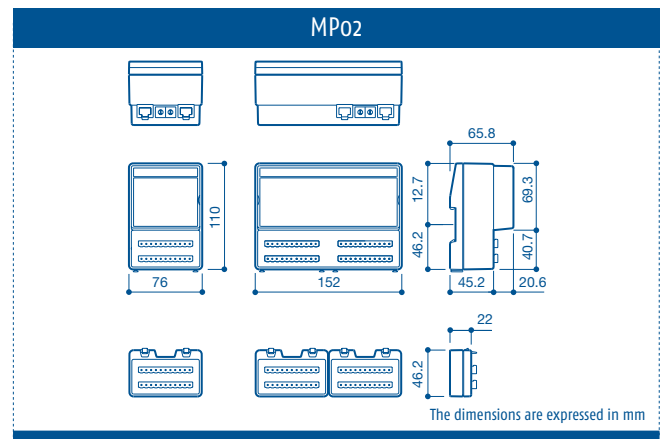
ACCESSORIES

CABLES	
APS2 CABLECUCONF	RS232 CABLE 2M, CONFIG. CU, PC-DB9F/CU-RJ45
APS2 CABLECUPROG	ETHERNET CABLE 2M, PROGRAMM. CU, PC-RJ45/CU-RJ45
POWER ADAPTORS	
APS2 ALDR75-24	POWER ADAPTOR 3.2 A
APS2 ALDR12024	POWER ADAPTOR 5 A
FILTERS	
APS2 FILTRI	FERRITES + FILTERS
PLUGS	
APS2 SPINAM11	PLUG WITH 11 POLE CLAMP TERMINALS
APS2 SPINAV11	PLUG WITH 14 POLE SCREW TERMINALS
APS2 SPINAM14	PLUG WITH 11 POLE CLAMP TERMINALS
APS2 SPINAV14	PLUG WITH 14 POLE SCREW TERMINALS

CONNECTIONS

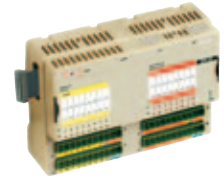


DIMENSIONS



MP-D 1/2/4

• EXPANSION UNITS
FOR MICROPAC MP02



FEATURES

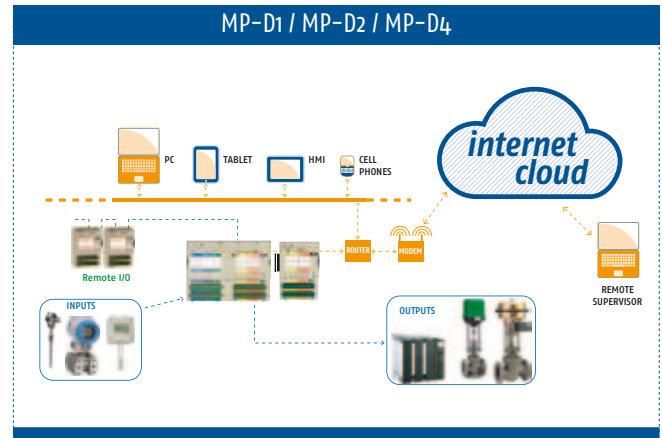
INPUTS	MP-D1/08-08/Mo	MP-D2/08-08/Mo	MP-D4/08-08/Mo	MP-D1/16-16/Mo
Digital	8 inputs (24 Vdc)		8 inputs (120 Vac)	16 inputs (24 Vdc)
OUTPUTS				
Digital	8 outputs (24 Vdc, 0.5A)	8 relay outputs 2A, NO		16 outputs (24 Vdc, 0.5A)
GENERAL				
Power supply	24 Vdc (-15... +25%) (50/60 Hz)			
Power consumption	4 VA			
Dimensions / Weight	76 x 110 mm, depth 66 mm / 220 g			152 x 110 mm, depth 66 mm / 350 g
Mounting	On OMEGA DIN A rail			
Front protection degree	IP 20			
Connections	Terminal block with CLAMP connectors			
Operating / storage temperature	0... +50°C (32... +122°F) / -20...+85°C (-4... +185°F)			
Operating humidity	5... 95 RH% without condensation			

HOW TO ORDER

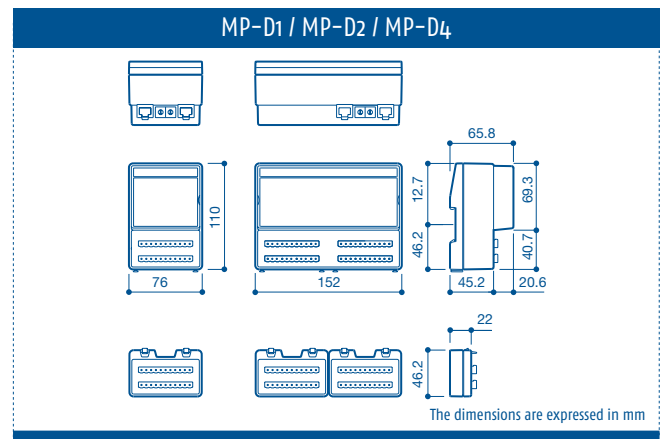
To compose the part number, pls. choose one of the option for each variable

EXPANSION UNITS - SIGMA2 MICROPAC	
MP-D1/08-08/M0	8 digital inputs 24Vdc optoisolated + 8 digital outputs 24V 0.5V optoisolated
MP-D1/16-16/M0	16 digital inputs 24Vdc optoisolated + 16 digital outputs 24V 0.5V optoisolated
MP-D2/08-08/M0	8 digital inputs 24Vdc + 8 digital outputs 230Vac/2A relay SPST-NO
MP-D4/08-08/M0	8 digital inputs 120Vac + 8 digital outputs 230Vac/2A relay SPST-NO

CONNECTIONS



DIMENSIONS



CU02 SIGMA2

- DISTRIBUTED PROGRAMMABLE CONTROLLER
- CANOPEN + ETHERNET
- 2XRS232 E 1XRS485
- 1 PROFIBUS DP SLAVE PORT



FEATURES

CONTROL UNIT – SIGMAPAC LINE – CU02	
INPUT	
Digital	one input 24Vdc NO contact
OUTPUTS	
Digital	1x relay 1A 120Vac/24Vdc resistive load for Watchdog and Wake Up functions
FUNCTIONAL	
Processor	ARM 32 bit
Memory	16 MB of RAM system, 128 kB redundant FLASH memory
Programming languages	IL, ST, FBD, LD, SFC, CFC
Standard	IEC61131-3
Real time clock	on board
Execution cycle Minimum time	≥5ms (10ms typical)
Serial ports	1xEthernet + 1XRS485 (CANOpen) + 1XRS232 + 1XRS232/USB + 1XRS485
Protocols	Modbus RTU (Master/Slave), Modbus TCP Server, CANOpen Master, Profibus DP, ASCII
GENERAL	
Power supply	24 Vdc (-15... +25%) (50/60 Hz)
Power consumption	6.5 VA
Dimensions / Weight	152 x 110 mm, depth 66 mm / 430 g circa
Mounting	On OMEGA DIN A rail
Front protection degree	IP 20
Operating / storage temperature	0... +55°C (32... +131°F) / -20...+85°C (-4... +185°F)
Operating humidity	5... 95 RH% without condensation

Note: SigmaPAC is a programmable distributed controller, modular and open. It is based on a CANOpen network to which are connected the I/O modules. I/O modules: See section "Acquisition and data recording".

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

CPU MODULE - SIGMA2	CODE
Model 01 - spare parts only	- 01
Model 02	- 02
SERIAL COMMUNICATION	
Not available	0
Profibus	2
RS232 + RS485	5
SERIAL COMMUNICATIONS	
RS232	0
USB	1
ETHERNET	
Available	1
INSTRUCTION MANUAL	
Italian / English	0
Not available	9
CUSTOMIZATION	
Standard	0
Customized	/ABA

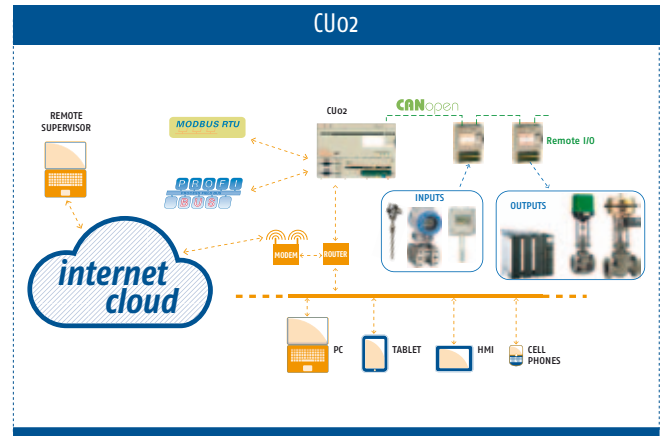
AVAILABLE MODELS

CU-02 5010	Control unit with Ethernet port, RS232 and 2 additional serial comms. (232+485)
CU-02 2010	Control unit with Ethernet port, RS232 and Profibus DP slave

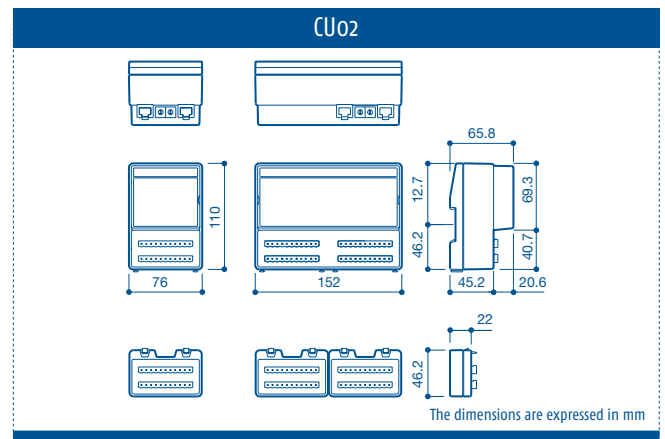
ACCESSORIES

CABLES	
APS2 CABLECUCONF	RS232 CABLE 2M, CONFIG. CU, PC-DB9F/CU-RJ45
APS2 CABLECUPROG	ETHERNET CABLE 2M, PROGRAMM. CU, PC-RJ45/CU-RJ45
POWER ADAPTORS	
APS2 ALDR75-24	POWER ADAPTOR 3.2 A
APS2 ALDR12024	POWER ADAPTOR 5 A
PLUGS	
APS2 SPINAM11	PLUG WITH 11 POLE CLAMP TERMINALS
APS2 SPINAV11	PLUG WITH 14 POLE SCREW TERMINALS

CONNECTIONS



DIMENSIONS



OPENPCS

- PROGRAMMING SOFTWARE COMPLIANT TO STANDARD IEC 61131-3
- 6 PROGRAMMING LANGUAGES
- WIDE RANGE OF LIBRARIES TO SIMPLIFY THE PROGRAMMING

FEATURES

FUNCTIONAL

Standard

Programming languages

Programming

Libraries

SOFTWARE OPENPCS

IEC 61131-3

Instruction List
Structured Text
Function Block Diagram
Ladder Diagram
Sequential Function Chart
Continuous Function Chart

Application project developing structured and simplified by the variable declaration method and keywords auto-recognition.
Integrated online debug and simulation tools.
Projects management "easy to use" through the dedicated browser.

AT_Generic_Advanced_Lib: includes advanced calculation and process functions such as Averages, Characterizations/Linearizations, A/D conversions, A/D Selectors, Totalizers, Limiters

AT_Process_Generic_Lib: includes advanced calculation and process functions such as Alarms, Signal's conditioning, Dew point, Relative Humidity, Bacteria load reduction (Fo), Compensated flow, Carbon potential calculation

AT_IO_Modules_Basic_Lib: specifically designed to configure and manage the I/O modules

AT_Process_Control_Lib: includes all the advanced PID functions dedicated to the process control such as single or double action controllers, within different Autotuning and Feed Forward modes

AT_CUo2_Cpu_Lib: specifically designed to manage the whole communication and diagnostic operations of the onboard I/Os and remote modules

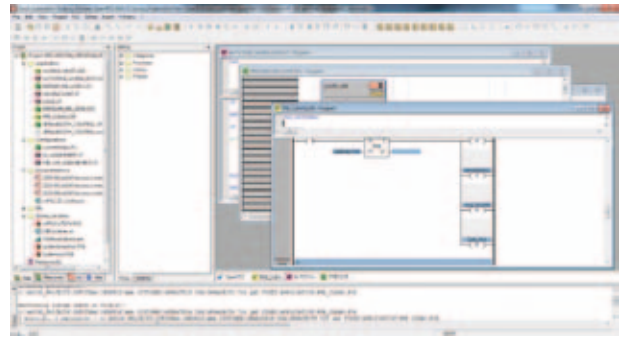
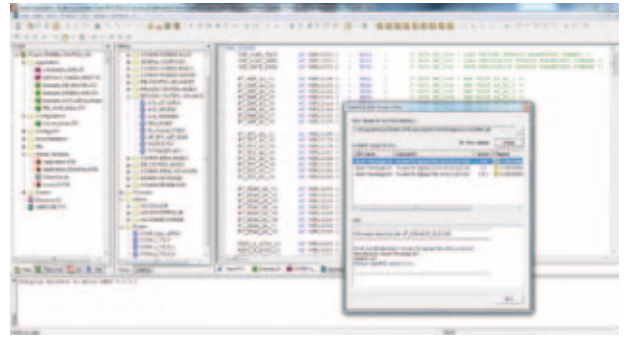
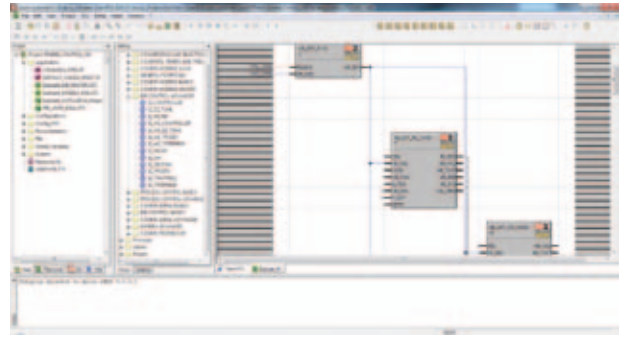
AT_Communications_Lib: includes a complete set of function blocks dedicated to the Modbus Master, Slave and Profibus agents communication activities plus Modems management.



HOW TO ORDER

SOFTWARE OPENPCS	IEC 61131-3 programming software
AP52 SWOPCS00	

SCREENSHOTS



THERMOSTATS
AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS
AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED
SYSTEMS

PLC AND
OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES



PRE-PROGRAMMED SYSTEMS



Solutions ready to be used!

Flexible systems able to suit to all plants, through a simple configuration and programming by means of touch screens.

BREWERY PAC

• PRE-PROGRAMMED SYSTEM
TO MANAGE BREWERY PLANTS



FEATURES

BREWERYPAC	
Functions	Solution that allows to control the temperature in the fermenter for beer production. Enabling is done through the touch screen and allows both control and supervision of individual fermenters. The modularity of the system is 8.
	Temperature control of the fermentors
	Temperature real time trend with time base of 1, 3, 6, 12 hours
	Daily historical trend
	Alarm management
	Alarm history recording
	Remote Management via Ethernet (also via the Web, via tablet or PC)
PRE-PROGRAMMED SOLUTION	
System components	Operator panel OPMT3105/N Modular solution: 1 to 32 controllers mod. K31 or 1 to 4 M81 controllers (each controlling 8 zones)

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

BP01 XXX-YY

OPMT3105/N pre-programmed with BreweryPAC interface on board
 no. 1... 8 Controllers mod. M81 pre-programmed with BreweryPAC applicative
 no. 1... 32 Controllers mod. K31

COMPONENTS

M81



SCREENSHOTS



THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES



INDUSTRIAL AUTOMATION



Flexible
control



PLC AND OPERATOR PANELS



Solutions for every demand of space!

PLC and operator panels with bright TFT display widescreen high resolutionre back lighted LED and up to 256 MB of memory.

For every application where power and control have to be separate from the HMI, we offer operator panels, both for front panel mounting and with custom dimensions.

PLC AND OPERATOR PANELS

FEATURES		P04	OPMT 8050I	OPMT 6050IV
Dimensions (inches)	4.3"	•	•	•
	7"			
	10"			
	10.4"			
	12.1"			
	15"			
Flash MB memory		128	128	128
RAM MB memory		128	64	64
Colours		262 K	65 K	66 K
Slot SD/SDHC card		•		
USB Host		•		
USB Client				•
Ethernet		•	•	
Power supply	24 Vac/Vdc	•	•	•
Audio				
Video				
COM1 RS232/485 2 4 wires			•	•
COM2 RS232			•	•
COM3 RS232/485 2 wires			•	•
COM1 RS485 2 wires		•		
CAN bus				
Programming Software (optional)		•	•	•
CE certification + UL approval			•	•

FEATURES		P01
Dimensions (mm)	78 x 35	
	on request	•
Single display		•
Double display		
Power supply (from the controller)	12 Vdc	•
	9 Vdc	
TTL Modbus not isolated		•
CE certification + UL approval		•

	OPMT 8070IH	OPMT 3070	OPMT 8100I	OPMT 3105/N	OPMT 3120	OPMT 3150/N
	•	•				
			•			
				•		
					•	
						•
	128	256	128	128	256	256
	64	256	64	64	256	256
	67 K	16.7 M	68 K	68 K	16.2 M	262 K
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•

	P30	P32
	•	•
	•	•
	•	•
	•	•
	•	•

THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

P04

- PLC WITH TOUCH SCREEN MONITOR
- TFT WIDESCREEN HIGH RESOLUTION BACKLIGHTED LED DISPLAY
- 4.3"



FEATURES

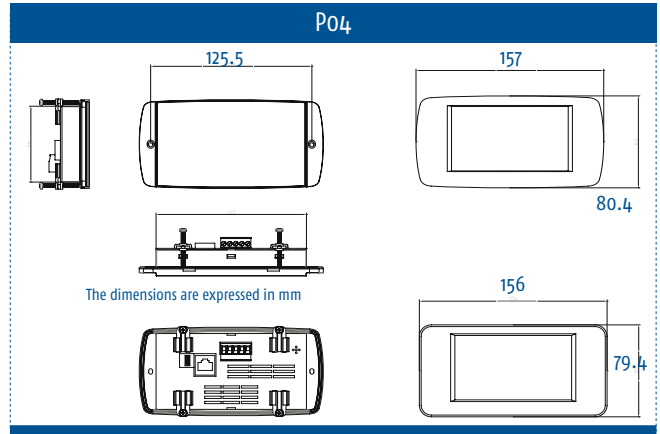
DISPLAY	
Display	P04 4.3" TFT
Resolution (pixel)	480 x 272
Brightness (cd/m ²)	280
Back Light type	LED
Colours	262 K
Touch panel	4 wire Resistive Type
MEMORY	
Flash (MB)	128
RAM (MB)	128
FUNCTIONAL	
CPU	ARM9 26 32 Bits 4545 MHz processor
PLC	programmable with standard languages IEC61131-3, simulator and application monitor for debugger
Slot SD card	4 GB Micro SD
USB Host	2.0 x 1
Ethernet	10/100 base-T
COM port	COM1 RS485 2w
Fieldbuses	Modbus RTU, ASCII, TPC, CANOpen
RTC	Available
POWER SUPPLY	
Power supply	24 Vdc/Vac ±20%
Power consumption (mA @24V)	250
MECHANICAL	
Case	UL V04 Autoextinguishing plastic
Dimensions	83 x 159 x 28 mm
Weight	200 g
Protection degree	IP65
Operating temperature / Storage	0... +50°C (32... +122°F) / -20... +60°C (-4... +140°F)
Operating humidity	10...90% RH without condensation
SOFTWARE	
Graphic interface	QT programming tool

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

P04	CODE
MODEL	
Touch screen 4.3" operator panel	-
Touch screen 4.3" operator panel with PLC function on board	P
APPLICATIVE ON BOARD	
Code that defines the applicative	XX
ETHERNET PORT	
Not available	-
Ethernet	E
USB PORT	
Not available	-
USB	U
COM PORT	
Not available	-
RS485	S
AT LIN	L
CAN	C
SD CARD	
Not available	-
SD card memory	M
CLOCK	
Not available	-
Real Time Clock	C
CONNECTIONS	
Plug-in screw type with connectors included	E
No connectors	N
CASE - COLOUR AND SHAPE	
Black, rectangular	B
Black, rounded	R
White, rectangular	S
White, rounded	W

DIMENSIONS



OPMT

- TOUCH SCREEN OPERATOR PANELS
- TFT WIDESCREEN HIGH RESOLUTION BACKLIGHTED LED DISPLAY
- 4.3", 7" AND 9.7"



FEATURES

DISPLAY	OPMT			
	8050IE	8070IE	8071IE	8091XE
Display	4.3" TFT		7" TFT	9.7" TFT
Resolution (pixel)	480 x 272		800 x 480	1024 x 768
Aspect Ratio			16:9	
Brightness (cd/m ²)	500		350	
Contrast ratio			500:1	
Colours			16M	
Back Light type			LED	
Touch panel		4 wire Resistive Type		
MEMORY				
Flash (MB)		128		512
RAM (MB)		128		256
I/O PORTS				
USB Host			2.0	
USB Client			Not available	
Ethernet			10/100 Base-T	
COM port		COM1 RS232/485 2 and 4w, COM3 RS485 2w		COM1 RS232, COM2 RS485 2 and 4w, COM3 RS485 2w
CAN bus		Not available		Available
RTC		Built-in		
POWER SUPPLY				
Power supply		24 Vdc ±20%		
Power consumption (mA @24V)	300	350		500
MECHANICAL				
Case material		UL V04 Selfextinguishing plastic		
Dimensions	128 x 102 x 32 mm	200.3 x 146.3 x 34 mm		260.6 x 203.1 x 36.5 mm
Cut-out dimensions	119 x 93 mm	192 x 138 mm		248.5 x 191 mm
Weight	250 g	600 g		900 g
Protection degree		IP65		
Operating temperature		0... +50°C / 32°... +122°F		
Operating humidity		10...90% RH without condensation		
SOFTWARE				
Software		Programmable with "Easy Builder Pro" software		Programmable with "Easy Builder 8000" software
CERTIFICATIONS AND MARKS				
Conformity		CE, UL	CE, UL pending	CE, UL

HOW TO ORDER

OPMT	
8050iE	4.3" TFT, wide screen 16/9, 480 x 272 p.
8070iE	7" TFT, wide screen 16/9, 800 x 480 p. UL marked
8071iE	7" TFT, wide screen 16/9, 800 x 480 p.
8091XE	9.7" TFT, 1024 x 768 p.

OPMT

- TOUCH SCREEN OPERATOR PANELS
- TFT WIDESCREEN HIGH RESOLUTION BACKLIGHTED LED DISPLAY
- 10", 12.1" AND 15"



FEATURES

DISPLAY	OPMT		
	8100IE	8121XE	8150XE/N
Display	10" TFT	12.1" TFT	15" TFT
Resolution (pixel)	800 x 480	1024 x 768	
Brightness (cd/m ²)	300	500	400
Contrast ratio	500:1	400:1	700:1
Colours	262K	16.2 M	
Back Light type	LED		
Touch panel	4 wire Resistive Type		
MEMORY			
Flash (MB)	128	256	
RAM (MB)	128	256	
I/O PORTS			
Slot SD card	Not available	SD/SDHC	
USB Host	2.0	2.0 X 1	
USB Client	Not available	2.0 X 1	
Ethernet	10/100 base-T		
COM port	COM1 RS232/485 2 and 4w, COM3 RS485 2w		
Video	Not available	NTSC/PAL RCAx2	
RTC	Available		
POWER SUPPLY			
Power supply	24 Vdc ±20%		
Power consumption (mA @24V)	400	800	1000
MECHANICAL			
Case material	UL V04 Autoextinguishing plastic	Aluminium	
Case dimension	271 x 213 x 40 mm	317 x 244 x 46 mm	366 x 293 x 57 mm
Cut out dimensions	260 x 202 mm	305 x 231 mm	352 x 279 mm
Weight	1.300 g	1.600 g	2.750 g
Protection degree	IP65	IP66 con guarnizione	IP65 con guarnizione
Operating temperature	0... +50°C / 32°... +122°F		
Operating humidity	10...90% RH without condensation		
SOFTWARE			
Software	Programmable with "Easy Builder 8000" software	Programmable with "Easy Builder Pro" software	
CERTIFICATIONS AND MARKS			
Conformity	CE, UL		

HOW TO ORDER

OPMT	
8100iE	10" TFT, 262K colours, 800 x 480 p.
812iXE	12,1" TFT, 16.2M colours, 1024 x 768 p.
8150XE/N	15" TFT, 16.2M colours, 1024 x 768 p.

P 01/30/32

- REMOTE OPERATOR PANELS
- EXTERNAL POWER SUPPLY (BY A SEPARATED CONTROL UNIT)
- 78 X 35 MM OR ON REQUEST



FEATURES

DISPLAY	P01	P30	P32
Display	Single: 4 red digit, h 15.5 mm + Bargraph 3 LED	Single: 4 red digit, h 12 mm + Bargraph 3 LED	Dual: Main: 4 red digit, h 7 mm Secondary: 4 red digit, h 7 mm
FUNCTIONAL			
Sampling rate		500 ms	
Acoustic alarm	--		Internal buzzer (optional)
Serial communication			TTL Modbus not isolated
Protocol			ModBus-RTU (JBUS)
Baud rate			38400 baud
GENERAL			
Power supply	12 Vdc supplied by the controller		9 Vdc supplied by the controller
Power consumption		50 mA	
Dimensions / Weight	On request / 115 g approx.		78 x 35 mm - depth 64 mm / 120 g approx.
Mounting	Behind layout		Flush in panel in 71 x 29 mm hole
Front protection degree	--		IP65, mounted in panel with gasket
Connections	Screw terminals		Screw terminal block 2.5 mm ²
Operating / storage temperature		0... 50°C (32... 122°F) / -20... 70°C (-4... 158°F)	
Operating humidity		20... 95 RH% without condensation	
Conformity	Directive EMC 2004/108/CE (EN 61326) - Directive LV 2006/95/CE (EN 61010-1)		

HOW TO ORDER

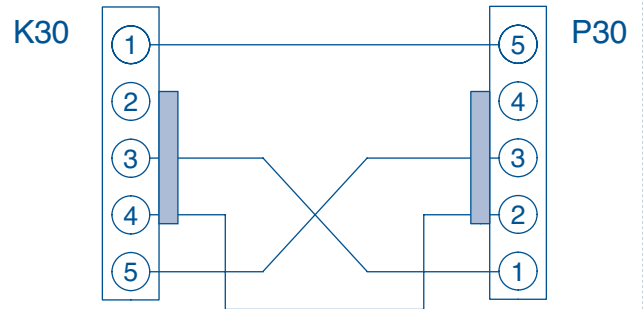
To compose the part number, pls. choose one of the option for each variable

P01	CODE
DISPLAY	
Red	-
Amber	A
Blue	U
INPUT	
From the connected controller	-
OUTPUT	
Out 8 Vdc	W
Not available	-

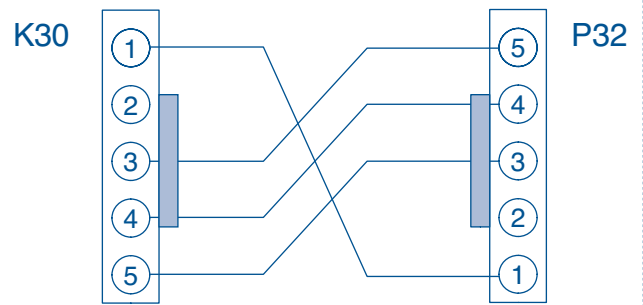
P30 / P32	CODE
DISPLAY	
Red	-
Blue	U
BUZZER (INTERNAL)	
Available	B
Not available	-

CONNECTIONS

P30

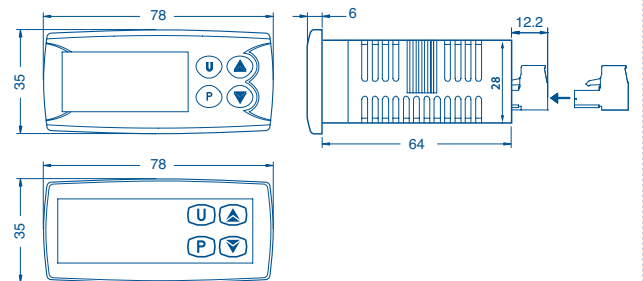


P32

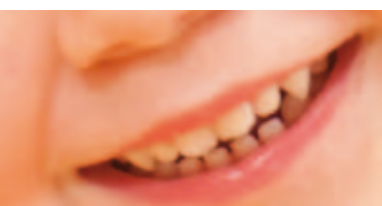


DIMENSIONS

P30 / P32



The dimensions are expressed in mm



ACQUISITION AND DATA RECORDING



Nothing is so
easy



I/O MODULES



Data acquisition modules in Modbus RTU and CANOpen

Many typologies of digital and analogue inputs and outputs.

I/O MODULES

FEATURES		AI		
		02UI	04RT	08TC
Dimensions (mm)	Single module (76 x 110 mm)	•	•	•
Input channels		2	4	8
Output channels				
Type of inputs	Thermocouples J,K,N,S,R,T	•	•	•
	RTD PT100 and PT1000	•	•	
	Current (mA)	•		
	Voltage (mV)	•	•	•
	Voltage (V)	•		
	Potentiometer	•		
	Dual polarity	•		
Resolution 16 bit		•	•	•
Accuracy 0.1%		•	•	•
Power supply 24 Vdc		•	•	•
Fast aquisition		•		
CANOpen protocol		•	•	•
Modbus RTU protocol			•	•
CE certification + UL approval (listed)		•	•	•

FEATURES		DI			
		16LV	16HV	32LV	08TS
Dimensions (mm)	Single module (76 x 110 mm)	•	•		•
	Dual module (152 x 110 mm)			•	
Input channels		16	16	32	8
Output channels					
Inputs	24 Vdc	•		•	•
	120 Vac		•		
Outputs	24 Vdc				•
	250 Vac				
	Relay				
Outputs 2A					
Outputs 6A					
Power supply 24 Vdc		•	•	•	•
CANOpen protocol		•	•	•	•
Modbus RTU protocol		•			•
CE certification + UL approval (listed)		•	•	•	•

FEATURES		TDA	
		04	08
Dimensions (mm)	4 Din modules (70 x 85 mm)	•	•
Input channels		4	8
Inputs	PTC, NTC or Pt1000		•
	4...20 mA	•	
	0... 10 V	•	
	Digitals	•	•
Power supply 24, 110, 230 Vac		•	•
CE certification		•	•

AI		AO	
08HL	08DP	08HL	08DP
•	•	•	•
8	8	8	8
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•

DM			DO						
16TS	32TS	16TS	16TP	32TR	32TS	04RL	04TX	08RL	
•	•	•	•	•	•	•	•	•	
8	16								
8	16	16	16	32	32	4	4	8	
•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	

THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

D7/D8/D9

- ANALOGUE AND DIGITAL ACQUISITION MODULES
- ANALOGUE UNIVERSAL TRANSMITTER WITH ALARMS
- RS485

FEATURES



INPUTS	D7	D9	D8
Number of inputs	1	2	--
Input configuration	Thermocouples: L/J/E (0... +600°C / 32... +112°F), T (-200...+400°C / -328...+752°F), K/N (0...+1200°C / 32...+2192°F), S/R (0... +1600°C / 32...2912°F), B (0... 1800°C / 32... 3272°F), Ni-NiMo (0... 1100°C / 32... 2012°F), W3, W5 (0... 2000°C / 32... 3632°F) Thermoresistances: PT100 (-99.9... 300.0°C / -99.9... 572.0°F and -200... 600°C / -328... 112°F) Linear signals: 0/10...50 mV; 0/4...20 mA (shunt) Infrared sensors or programmable on special ranges (custom)		--
Accuracy	0.25% ±1 digit (thermoelements); 0.1% ±1 digit (mA and mV)		--
Digital inputs	1 voltage digital input	1 voltage digital input (+ 2 configurables)	6 digital inputs in voltage or for free voltage contacts, in 2 groups optoisolated (1 and 2 in Hz)
OUTPUTS			
Outputs OUT1-OUT2	OUT1 and OUT2: Relay NO, 2A res./250VAc (4A res./120VAc) / SSR, 1A res./250VAc	OUT1 and OUT2: Relay NO, 2A res./250VAc (4A res./120VAc)/SSR, 1A res./250VAc, logic 0/5 Vdc, not insulated	--
Outputs OUT3-OUT4	--	OUT3 and OUT4: logic 0/5 Vdc, not insulated	--
Output OUT5	OUT5: 0/4... 20 mA, 15V max.	--	--
Outputs functions	--	NOT	NOT, PWM, Hold
Auxiliary supply	+24dc, ±20%, 30 mA max. - to supply an external transmitter	--	--
Outputs configuration	Up to 3 alarms	Up to 4 alarms	--
Alarm functions	Sensor break, Latching/Blocking, Loop break, Heater break associated to the timer (if available)		--
FUNCTIONAL			
Setpoint	Reference value	Reference value	--
Special functions (optionals)	--	--	NOT, Toggle, Flip-Flop
Front indication LEDs	3 red (DO) + 1 green (PWR/COM)	4 red (DO) + 1 green (PWR/COM)	6 yellow (DI), 2 red (DO), 1 green (PWR/COM)
Unit of measurement	°C/°F or engineering units (-999... 9999)		--
Signal retransmission	Measure or setpoint retransmission (reference value)	--	--
Serial communication	Isolated RS485 with Modbus RTU protocol		
Baud rate	RS 485 (MASTER or SLAVE) 1200, 2400, 4800, 9600 bit/s 3 wires		
Parameters access	Through serial line and supervision software		
GENERAL			
Power supply	24VAc (-25...+12%), 24Vdc (-15...+25%) (50/60Hz)		
Power consumption	4 VA max.	5 VA max.	4 VA max.
Dimensions	22.5 x 99, depth 114.5 mm		
Weight	155 g approx.	156 g approx.	152 g approx.
Connections	PWS and COM: 0.08... 1.5 mm ² (AWG28-AWG16) Inputs/Outputs: 0.2... 2.5 mm ² (AWG24 - AWG12)		
Mounting	On OMEGA DIN A rail		
Protection degree	IP20 (terminal block)		
Operating / storage temperature	0... 50°C (32... 122°F)/-30... 70°C (-22... 158°F)		
Operating humidity	5... 95 RH% without condensation		
Conformity	EN61010-1 (IEC1010-1)		

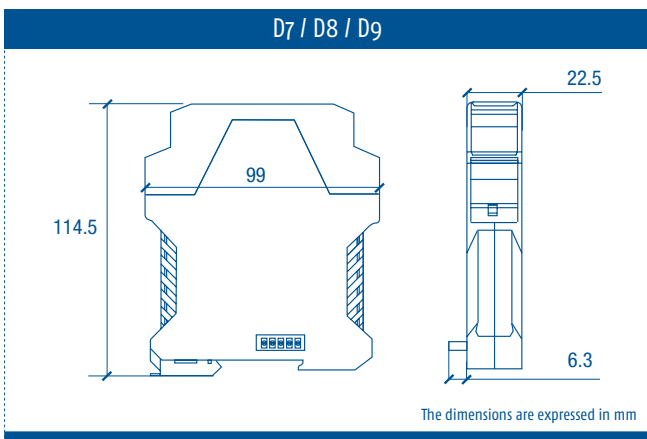
Note: these modules can be inserted into Profibus DP and DeviceNet nets, together with a DX module, with the possibility of automatic reconfiguration.

HOW TO ORDER

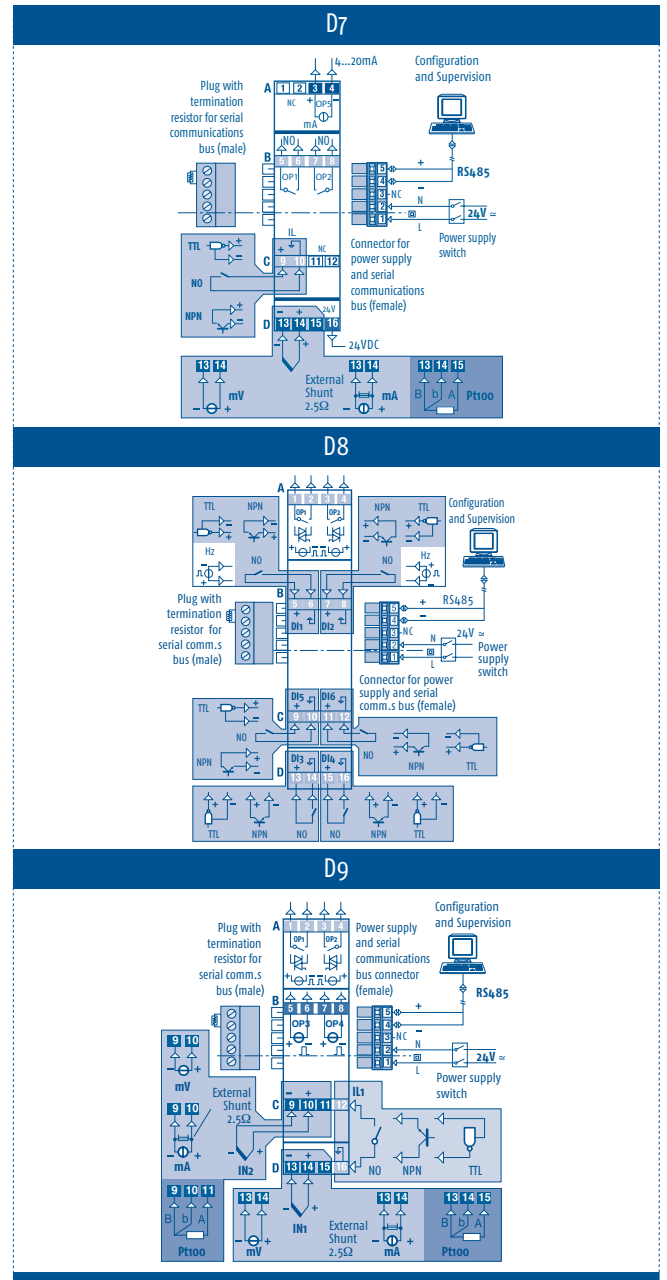
To compose the part number, pls. choose one of the option for each variable

D7/D8/D9	CODE
POWER SUPPLY	
24 Vac/Vdc	5
OUT 1 AND OUT 2	
Relay (D7 only)	0
Relay-Relay	1
Relay-Logic (D8 and D9 only)	2
Logic-Logic (D8 and D9 only)	3
Triac-triac (D8 and D9 only)	4
Triac-Logic (D8 and D9 only)	5
SERIAL COMMUNICATION	
RS485	5
OPTION 1	
Not available	0
Continuous output (D7 only)	5
SPECIAL FUNCTIONS	
Not available	0
INSTRUCTION MANUAL	
Italian / English	0
Not available	9
OPTION 2	
Shunt 1% (D7 and D9 only)	0
Shunt 0.1% (D7 and D9 only)	2
OPTION 3	
Not available	0
Conformal coating	3

DIMENSIONS



CONNECTIONS



THERMOSTATS AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED SYSTEMS

PLC AND OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

ANALOGUE I/O

- ANALOGUE ACQUISITION MODULES
- UP TO 8 INPUTS AND 8 OUTPUTS



FEATURES

INPUTS	AI-02UI	AI-08TC	AI-04RT	AI-08HL	AI-08DP	A0-08HL	A0-08DP	
Number of inputs	2	8	4	8				
Type of inputs (see table on next page for input ranges)	Universal: RTD, TC, mA, mV, V, potentiometer	TC, mV	RTD, TC, mV	mA, V	mA, V dual polarity	--		
Accuracy	0.1%							
OUTPUTS								
Number of outputs						8		
Type of outputs						mA, V	V dual polarity	
FUNCTIONAL								
Modbus protocol	--	Available			--	Available	--	
CANOpen protocol	Available							
Serial communication	RS 485, with dual connector RJ45							
Resolution	16 bit							
Isolation class	2500 V	800V						
Acquisition time	20 ms	60 ms	120 ms	10 ms	20 ms			
GENERAL								
Power supply	24Vdc (-15...+25%) (50/60Hz)							
Power consumption	4 VA max.							
Dimensions / Weight	110 x 66 mm, depth 76 mm / 220 g approx.							
Mounting	On OMEGA DIN A rail							
Connections	2 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals							
Protection degree	IP20 (terminal block)							
Operating / storage temperature	0... 55°C / -20... 85°C (32... 131°F / -4... 185°F)							
Operating humidity	5... 95% RH% without condensation							
Conformity	EN 50081-2, EN 50082-2, EN 61010							

HOW TO ORDER

CODE	PROTOCOL	DESCRIPTION	CHANNELS	
			I	O
ANALOGUE INPUTS				
IO-CBAIo2UI	CANOpen	RTD, Tc, mA, mV, V, potentiometer	2	
IO-CBAIo4RT	CANOpen	RTD, Tc, mV	4	
IO-MBAIo4RT	Modbus	RTD, Tc, mV	4	
IO-CBAIo8TC	CANOpen	TC, mV	8	
IO-MBAIo8TC	Modbus	TC, mV	8	
IO-CBAIo8HL	CANOpen	mA, V unipolar	8	
IO-MBAIo8HL	Modbus	mA, V unipolar	8	
IO-CBAIo8DP	CANOpen	V dual polarity	8	
IO-MBAIo8HLTo-	Modbus	mA, V unipolar, Conformal coating	8	
ANALOGUE OUTPUTS				
IO-CBAOo8HL	CANOpen	mA, V unipolar		8
IO-MBAOo8HL	Modbus	mA, V unipolar		8
IO-CBAOo8DP	CANOpen	V dual polarity		8

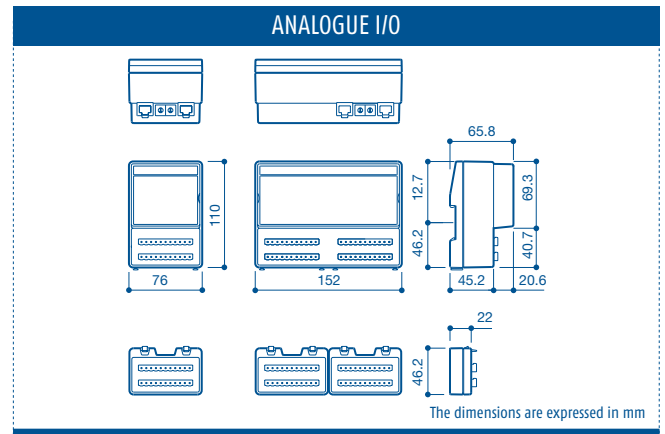
ACCESSORIES

CABLES	
APS2 LOCALBUS76	CABLE WITH CONNECTOR RJ45 L=14 CM FOR RS485
APS2 LOCALBUS152	CABLE WITH CONNECTOR RJ45 L=22 CM FOR RS485
APS2 LOCALBUS500	CABLE WITH CONNECTOR RJ45 L=50 CM FOR RS485
POWER ADAPTORS	
APS2 ALDR75-24	POWER ADAPTOR 3.2 A
APS2 ALDR12024	POWER ADAPTOR 5 A
PLUGS	
APS2 SPINAM11	PLUG WITH 11 POLE CLAMP TERMINALS
APS2 SPINAV11	PLUG WITH 11 POLE SCREW TERMINALS
TERMINALS AND CONNECTORS	
APS2 TB211	TERMINAL BLOCK
APS2 TERMCAN	CONNECTOR RJ45 WITH CAN TERMINAL

INPUT RANGE

RANGE	
Thermocouples	LJ (-200... +600°C/-328... +1112°F), T (-200... +400°C/-328... +752°F), K (-200... +1370°C/328... +2498°F), N (0... +1300°C/32... 2372°F), S (0... +1760°C/ 32... +3200°F), R (0... +1600°C/32... 2912°F)
Thermoresistances	PT100/PT1000 (-200... +600°C/-328... +1112°F)
Linear signals	0...100 mV, 0...1000 mV, ±100mV, ±1000mV ±50 mV, ±300, ±1.0 V mA, (0,4... 20 mA), V (0...10V)
Potentiometer	100...10K Ω

DIMENSIONS



DIGITAL I/O

- DIGITAL ACQUISITION MODULES
- UP TO 32 INPUTS AND 32 OUTPUTS
- RS485



FEATURES

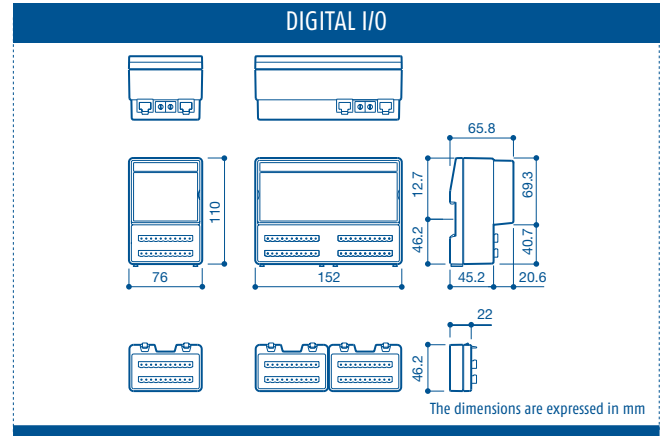
INPUTS	DI-16LV	DI-16HV	DI-32LV	DO-16TS	DO-16TP	DO-32TS
Number of inputs	16		32	--		
Type of inputs	24 Vdc	115 Vac	24 Vdc	--		
OUTPUTS						
Number of outputs	--		16		32	
Voltage	--		24 Vdc		--	
Current	--		500 mA	2 A	500 mA	
FUNCTIONAL						
Modbus protocol	Available	--		Available	--	
CANOpen protocol	Available					
Serial communication	RS 485, with dual connector RJ45					
Isolation class	800 V	2500 V	800 V		--	
GENERAL						
Power supply	24Vdc (-15...+25%) (50/60Hz)					
Power consumption	4 VA max.					
Dimensions	76 x 110 mm, depth 66 mm		152 x 110 mm, depth 66 mm	76 x 110 mm, depth 66 mm		152 x 110 mm, depth 66 mm
Weight	220 g		360 g	220 g		360 g
Mounting	On OMEGA DIN A rail					
Connections	2 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals		4 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals	2 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals		4 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals
Protection degree	IP20					
Operating / storage temperature	0... 55°C / -20... 85°C (32... 131°F / -4... 185°F)					
Operating humidity	5... 95% RH% without condensation					
Conformity	EN 50081-2, EN 50082-2, EN 61010					

Note: through modules DX and DY, these instruments can be interfaced on Profibus, CANOpen and DeviceNet nets.

HOW TO ORDER

CODE	PROTOCOL	DESCRIPTION	CHANNELS	
			I	O
DIGITAL INPUTS				
IO-CBD16LV	CANOpen	24 Vdc PNP	16	
IO-MBD16LV	Modbus	24 Vdc PNP	16	
IO-CBD16HV	CANOpen	24 Vdc PNP	16	
IO-CBD132LV	CANOpen	24 Vdc PNP	32	
DIGITAL OUTPUTS				
IO-CBD016TS	CANOpen	24 Vdc 0.5 A		16
IO-MBD016TS	Modbus	24 Vdc 0.5 A		16
IO-CBD016TP	CANOpen	24 Vdc 2 A		16
IO-CBD032TS	CANOpen	24 Vdc 0.5 A		32

DIMENSIONS



ACCESSORIES

CABLES	
APS2 LOCALBUS76	CABLE WITH CONNECTOR RJ45 L=14 CM FOR RS485
APS2 LOCALBUS152	CABLE WITH CONNECTOR RJ45 L=22 CM FOR RS485
APS2 LOCALBUS500	CABLE WITH CONNECTOR RJ45 L=50 CM FOR RS485
POWER ADAPTORS	
APS2 ALDR75-24	POWER ADAPTOR 3.2 A
APS2 ALDR12024	POWER ADAPTOR 5 A
PLUGS	
APS2 SPINAM11	PLUG WITH 11 POLE CLAMP TERMINALS
APS2 SPINAV11	PLUG WITH 11 POLE SCREW TERMINALS
TERMINALS AND CONNECTORS	
APS2 TB211	TERMINAL BLOCK
APS2 TERMCAN	CONNECTOR RJ45 WITH CAN TERMINAL

DIGITAL I/O

- DIGITAL ACQUISITION MODULES
- UP TO 16 INPUTS AND 16 OUTPUTS
- RS485



FEATURES

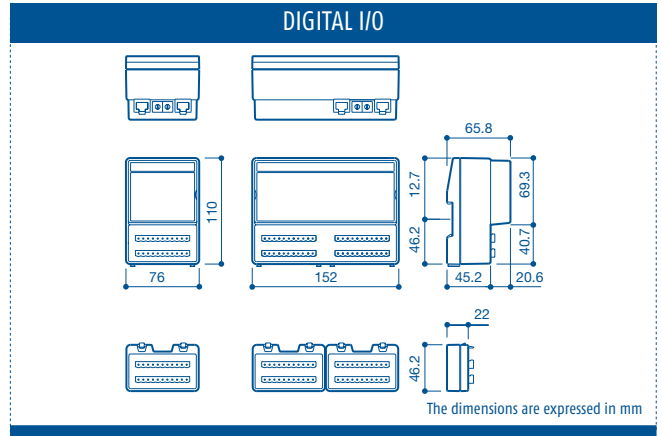
INPUTS	DO-04RL	DO-04TX	DO-08RL	DM-08TS	DM-16TS	DM-32TS
Number of inputs	--			8	16	
Type of inputs	--			24 Vdc		
OUTPUTS						
Number of outputs	4		8		16	
Relay	250 Vdc Relay	24 Vdc Relay	250 Vac Relay	--		
Voltage	--		--		24 Vdc	
Current	2 A (SPST) 1 A (SSR)	6 A	2 A (SPST) 1 A (SSR)	500 mA		
FUNCTIONAL						
Modbus protocol	--			Available	--	
CANOpen protocol	Available					
Serial communication	RS 485, with dual connector RJ45					
Isolation class	4000 V	800 V	4000 V	800 V		
GENERAL						
Power supply	24 Vdc (-15...+25%) (50/60 Hz)					
Power consumption	4 VA max.					
Dimensions	76 x 110 mm, depth 66 mm		152 x 110 mm, depth 66 mm	110 x 76 mm, depth 76 mm		152 x 110 mm, depth 66 mm
Weight	220 g		360 g	220 g		360 g
Mounting						
Connections	2 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals		4 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals	2 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals		4 terminal blocks with 11 poles 5.0mm, with screws or CLAMP terminals
Protection degree	IP20					
Operating / storage temperature	0... 55°C / -20... 85°C (32... 131°F / -4... 185°F)					
Operating humidity	5... 95% RH% without condensation					
Conformity	EN 50081-2, EN 50082-2, EN 61010					

Note: through modules DX and DY, these instruments can be interfaced on Profibus, CANOpen and DeviceNet nets.

HOW TO ORDER

CODE	PROTOCOL	DESCRIPTION	CHANNELS	
			1	0
RELAY OUTPUTS				
IO-CBD004RL	CANOpen	SPST-NO 2 A		4
IO-CBD004TX	CANOpen	SPST-NO 6 A		4
IO-CBD008RL	CANOpen	4 SPST-NO 2 A + 4 SPDT 2 A		8
DIGITAL I/O				
IO-CBDM08TS	CANOpen	24 Vdc PNP - 24 Vdc 0.5 A		8
IO-MBDM08TS	Modbus	24 Vdc PNP - 24 Vdc 0.5 A		8
IO-CBDM16TS	CANOpen	25 Vdc PNP - 24 Vdc 0.5 A	8	8
IO-CBDM32TS	CANOpen	26 Vdc PNP - 24 Vdc 0.5 A	16	16

DIMENSIONS



ACCESSORIES

CABLES	
APS2 LOCALBUS76	CABLE WITH CONNECTOR RJ45 L=14 CM FOR RS485
APS2 LOCALBUS152	CABLE WITH CONNECTOR RJ45 L=22 CM FOR RS485
APS2 LOCALBUS500	CABLE WITH CONNECTOR RJ45 L=50 CM FOR RS485
POWER ADAPTORS	
APS2 ALDR75-24	POWER ADAPTOR 3.2 A
APS2 ALDR12024	POWER ADAPTOR 5 A
PLUGS	
APS2 SPINAM11	PLUG WITH 11 POLE CLAMP TERMINALS
APS2 SPINAV11	PLUG WITH 11 POLE SCREW TERMINALS
TERMINALS AND CONNECTORS	
APS2 TB211	TERMINAL BLOCK
APS2 TERMCAN	CONNECTOR RJ45 WITH CAN TERMINAL

TDA

- ANALOGUE AND DIGITAL ACQUISITION MODULES
- RS485
- 4 OR 8 INPUTS



FEATURES

INPUTS	TDA04	TDA08
Digital inputs	4 digital inputs for free voltage contacts	
4 analogue inputs	0/4...20 mA or 0/2...10 V	--
8 probe inputs	--	8x Thermistors PTC KTY 81-121 (990Ω at 25°C) or NTC 103AT-2 (10KΩ at 25°C) or 8x Thermoresistances Pt1000 (1KΩ at 0°C)
Accuracy	±0.5% fs	
OUTPUT		
One	1 Relay SPST-NO (5A-AC1, 2 A-AC3/250 Vac)	
FUNCTIONAL		
Serial communication	RS485 optoisolated – MODBUS RTU (JBUS) protocol	
Baud rate	Programmable between 1200 and 38400 baud	
Sampling rate	2 samples per second	
Range	350 points	According to the used probe
GENERAL		
Power supply	24, 115, 230 Vac ±10% (50/60 Hz)	
Power consumption	5 VA approx.	
Dimensions / Weight	4 DIN rail module 70 x 84 x 60 mm / 210 g approx.	
Connections	Screw terminal block 2.5 mm ²	
Mounting	On OMEGA DIN A rail	
Operating / storage temperature	0... 50°C (32... 122°F) / -30... 70°C (-22... 158°F)	
Operating humidity	30...95 RH% without condensation	
Conformity	Directive CEE EMC 2004/108/CE (EN 61326), Directive CEE BT 2006/95/CE (EN 61010-1)	

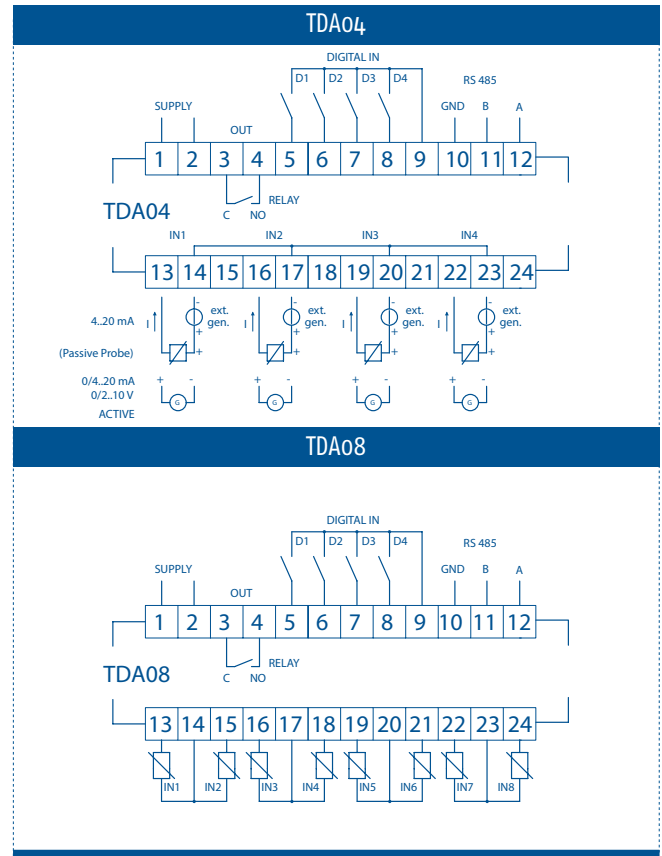
HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

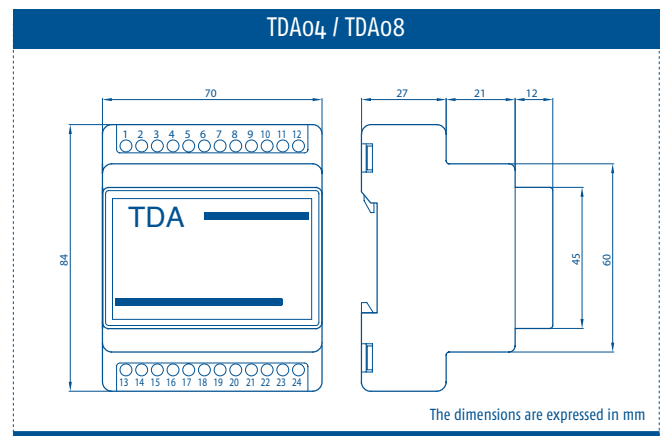
TDA04	CODE
INPUT	
0/2...10V	W
0/4...20 mA	I
POWER SUPPLY	
24 Vac	A
115 Vac	C
230 Vac	D

TDA08	CODE
INPUT	
PT1000	P
NTC	N
PTC	E
POWER SUPPLY	
24 Vac	A
115 Vac	C
230 Vac	D

CONNECTIONS



DIMENSIONS





SUPERVISION



AutoLink, DX and DY Gateways

SCADA Software for the centralized management and the supervision of plants.
Protocol converters for the integration of the Modbus RTU instrumentation with other field bus.

SUPERVISION

		DX	DY	DY5121
Dimensions (mm)	Deltadue module (22.5 x 99 mm)	•	•	
	4 DIN rail module (70 x 85 mm)			•
Protocol	Modbus RTU	•		
	CANOpen		•	
	Profibus DP slave	•		
	DeviceNet	•		
	Modbus TCP		•	•
Functions	Multi master	2	8	4
	Backup instruments (max.32)	•		
	Data transfer (binding)	•		•
	E-mail and SMS			•
	Webserver			•
Power supply 24 Vac/Vdc		•	•	•
CE certification + UL approval (listed)		•		•

THERMOSTATS
AND CONTROLLERS

INDICATORS

SPECIAL CONTROLLERS
AND "CUSTOM"

PAC SYSTEMS

PRE-PROGRAMMED
SYSTEMS

PLC AND
OPERATOR PANELS

I/O MODULES

SUPERVISION

ACCESSORIES

AUTOLINK

• SUPERVISION AND DATA ACQUISITION SOFTWARE



FEATURES

HARDWARE AND SOFTWARE

Hardware	Pentium II, 512 MB RAM, CD rom, resolution 800x600
Supported OS	Windows 95, 98, 2000, NT, XP, Vista, 7

COMMUNICATIONS

Interfaces	Serial lines, USB (with adapters), Ethernet
Drivers	Modbus RTU/ASCII, Modbus TCP, RTU Remote /ASCII Remote - Allen-Bradley Df1 Full Duplex Protocol For (Plc 3 and Plc 5), Slc 500 - AVEBus - Data Stream - Decom Contrex - Eurotherm Bisynch ASCII - Gefran - Cencal - Idec Izumi - Klockner Moeller Sucom - (A and A for Ps4) - Mitsubishi Fr-Cu03 - ODBC Client - Omron (Fins, Fins in Host Link, Sysmac) - OPC Client - Red Lion PAX-1/8 DIN Counter/Rate Meter - Saia (P800 and S-Bus) - Siemens MPI, Prodrive MPI Mini, Plc Simatic S5 - S7EV2001, Profibus Mater DP - (Tecmint HTE), Profibus MPI and S7 (Applicom), Profibus PPI S7 200 (Applicom), PPI S7 200 (Adapter) - Interconnections TCP/IP (Master/Slave) - Raw ASCII Output - Other available drivers

UNIQUE FUNCTIONALITIES

GammaDue, DeltaDue, SigmaDue	Device autorecognition and project automatic creation (Autolink QuickDIN)
TLK, K, R, Z, Y, X, KM, W	Device autorecognition and project automatic creation (W-Tec)

DATABASE AND FUNCTIONALITIES

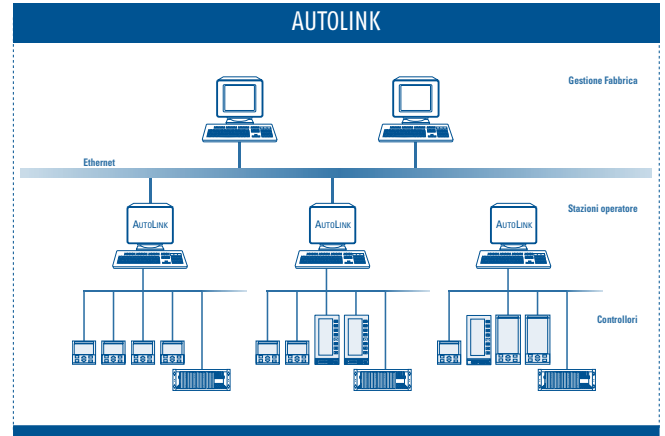
Number of variables	128, 256, 2048, 62536
Type of variables	Numerics, digitals, strings, composites
Alarms	Unlimited
Trend	Binary, DBF and CSV file types
Access levels	32
Synoptic pages	Unlimited
Alarm pages	Unlimited
Trend pages	Unlimited, max 10 traces per window
Recipes	Unlimited and customizables
Report	Up to 999
Auxiliary functions	Events schedulings, remote control, macros, multilanguages, SMS

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

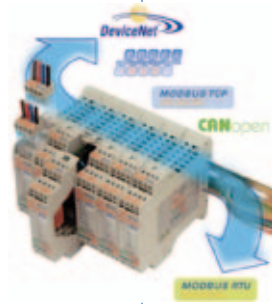
DEVELOPMENT AND RUNTIME SOFTWARE	
FOR DELTADUE, GAMMADUE AND SIGMADUE I/O MODBUS INSTRUMENTS ONLY MAX 32 INSTRUMENTS	
LSALINKDIN/USB	DEVELOPMENT/RUNTIME KEY MAX. 32 INSTRUMENTS DIN W-L
DEVELOPMENT AND RUNTIME SOFTWARE MAX. 128 VARIABLES	
LSALINKDVS/USB	DEVELOPMENT/RUNTIME KEY MAX. 128 VARIABLES DVS-W-ES
DEVELOPMENT AND RUNTIME SOFTWARE MAX. 2048 VARIABLES	
LSALINKDVM/USB	DEVELOPMENT/RUNTIME KEY MAX. 2048 VARIABLES DVM-W-EM
DEVELOPMENT AND RUNTIME SOFTWARE MAX. 65536 VARIABLES	
LSALINKDVX/USB	DEVELOPMENT/RUNTIME KEY MAX. 65536 VARIABLES DVX W-EX
RUNTIME SOFTWARE	
LSALINKRNT/USB	RUNTIME KEY MAX. 65536 VARIABLES RNT W-R

CONNECTIONS



DX/DY

• PROTOCOL GATEWAYS



FEATURES

FUNCTIONAL	DX	DY
Manager functions	Connected modules (max. 32) configuration and parameters data backup Hot swapping, automatic configuration and setup of the replaced modules.	--
Gateway functions	RS232/485 converter Protocol converter between Profibus DP SPC3, DeviceNet and Modbus RTU	Binding (data transfer) Protocol converter between CANOpen or Modbus TCP to Modbus RTU
WebSCADA functions	--	Instruments template 30 pages of 20 variables 64 alarms (e-mail and SMS with external modem, GSM or GPRS). A 64 variables log file (CSV), can be periodically send by e-mail Trend graphics (if JAVA is installed)
Communications ports	RS485 Modbus RTU master protocol (max.19200 baud) RS485, RS232 Modbus RTU slave protocol, insulated (max.38400 baud) RS485 Modbus RTU slave protocol, insulated (max. 57600 baud) RS485 Profibus DP slave (max. 12 Mb/s)	RS232 standard (for instrument configuration only) Ethernet 10/100 Mbaud, RJ45 female connector RS485 Modbus RTU (max. 115 K baud) RS485 CANOpen (max. 1 Mb/s)
GENERAL		
Power supply	24Vac (-25...+12%), 24Vdc (-15...+25%) (50/60Hz)	
Power consumption	4VA max.	
Dimensions / Weight	22.5 x 99 mm, depth 114.5 mm / 200 g approx.	
Mounting	On OMEGA DIN A rail	
Connections	PWS and COM: 0.08... 1.5 mm ² (AWG28-AWG16) Inputs/Outputs: 0.2... 2.5 mm ² (AWG24 - AWG12)	
Protection degree	IP20 (terminal block)	
Operating / storage temperature	0... 50°C (32... 122°F) / -20... 70°C (-4... 158°F)	
Operating humidity	5... 95% RH% without condensation	
Conformity	CE, UL, CSA, EN61010-1 (IEC1010-1)	CE, EN61010-1 (IEC1010-1)

HOW TO ORDER

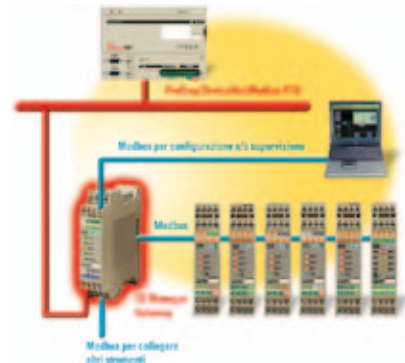
To compose the part number, pls. choose one of the option for each variable

DX	CODE
Gateway/Manager for Delta2/Gamma2 series	
POWER SUPPLY	
24 Vac/Vdc	5
NUMBER OF INSTRUMENTS IN BACKUP	
0 Instruments	0
4 Instruments	1
8 Instruments	2
16 Instruments	3
32 Instruments	4
FIELDBUS COMMUNICATION	
No fieldbus	0
DeviceNet	1
ModBus	5
Profibus DP	7
OPTION 1	
Not available	0
SPECIAL FUNCTIONS	
Not available	0
INSTRUCTION MANUAL	
Italian / English	0
Not available	9
OPTION 2	
Not available	0
OPTION 3	
Not available	0
Conformal coating	3

DY	CODE
PROTOCOL CONVERTER	
CAN Open/Modbus RTU - Delta2 Case	DY5030
WEB+Modbus TCP/RTU - 4 DIN Case	DY5121
TCP/RTU Modbus multiple connection - Delta2 Case	DY5220
INSTRUCTION MANUAL	
Italian / English	0
English	8

CONNECTIONS

DX

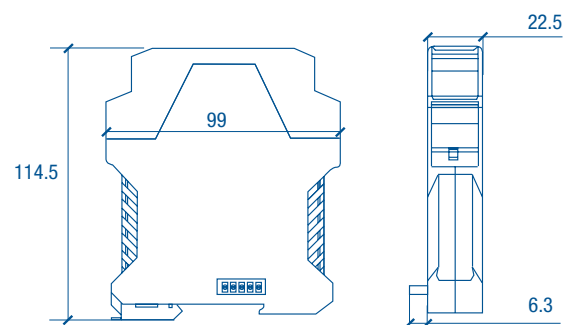


DY



DIMENSIONS

DX / DY



The dimensions are expressed in mm



ACCESSORIES

flexible
solutions
for every
requirements





ACCESSORIES



To complete the range...

Together with our products we can also supply all the accessories of your applications: probes, sockets, gaskets, hole covers, programming keys, signal and protocol converters, front frame protections, external and current transformers, adapters and more...

A01

• UNIVERSAL PROGRAMMING KEY
FOR ASCON TECHNOLOGIC INSTRUMENTS



FEATURES

FUNCTIONAL

A01

Functions

- The key is able to "dialogue" with:
- * An instrument and to copy parameters to the key and vice versa
 - * A second key and to integrally copy its parameters
 - * A Personal computer
 - * A Personal computer and an instrument

A01 is able to recovery data even from failed instruments and permits unlimited copies of configuration, error free.

Serial communication

Interface RS485, not insulated
Interface TTL Modubus, not insulated

GENERAL

Connections

TTL male connector: JST S 5B-PH-KL
TTL female connector : SAMTEC SQT-105-02-L-S
RS485 connector : Phoenix MC 1,5/3-G-3.5
PWS connector : Dc power Jack 1.3mm
USB connector type: Mini-USB
Dip switch: 4 ways

Operating / storage temperature

0... 50°C (32... 122°F) / -20...+70°C (-4... 158°F)

Operating humidity

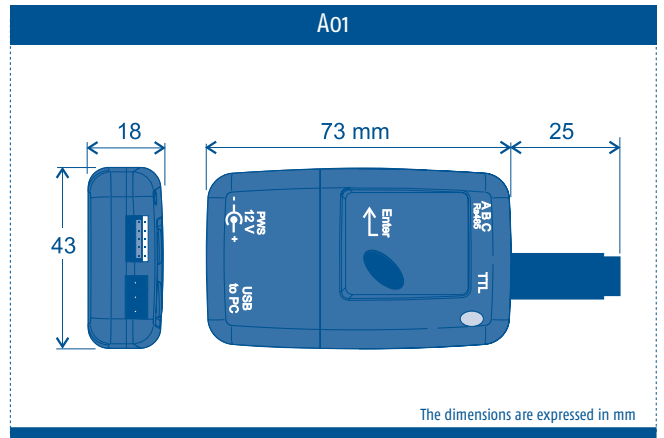
20... 95 RH% without condensation

HOW TO ORDER

To compose the part number, pls. choose one of the option for each variable

A01	CODE
CONNECTOR	
5 pole for 78x35, DIN rail, 72x72 series	5
3 pole for 48x48 series	3
POWER ADAPTOR	
Available	E
Not available	-
KIT FOR PC CONFIGURATION	
USB cable and SW on Cdrom support	S
Without cable and SW	-

DIMENSIONS



A30

• SIGNAL CONVERTER FROM
USB/RS232/RS485 TO RS485/TTL



FEATURES

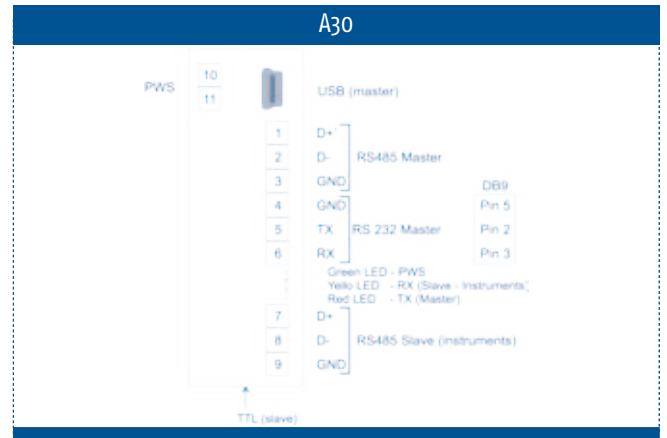
FUNCTIONAL	A30U	A30-
Interface type	From USB to RS485 auto powered From USB to TTL auto powered	From USB to RS485 From USB to TTL From RS232 to RS485 From RS232 to TTL From RS485 to RS485 From RS485 to TTL
TX/RX commutation	Automatic	
Baud rate	38400, automatic selection	
GENERAL		
Power supply	24 Vac/Vdc $\pm 10\%$ or 100... 240Vac (-15... +10%) (50/60 Hz)	
Power consumption	5 VA max.	
Dimensions / Weight	78x35 mm, depth 77,31 mm / 180 g	
Connections	PWS: screw terminal block (M3 screws, for cables Φ 0.25 to Φ 2.5 mm ² or AWG 23 to AWG 14) RS232/RS485: screw terminal block (M2 screws, for cables Φ 0.25 to Φ 1.5 mm ² or AWG 23 to AWG 16)	
Protection degree	IP20 (terminal block)	
Mounting	On OMEGA DIN A rail	
Operating / storage temperature	0... 50°C (32... 122°F)/-30... +70°C (-22... 158°F)	
Operating humidity	20... 85 RH% without condensation	
Conformity	EN61326-1, EN61010-1	

HOW TO ORDER

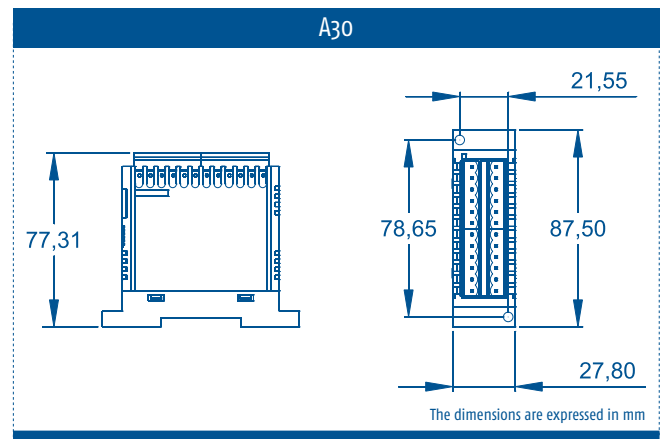
To compose the part number, pls. choose one of the option for each variable

A30	CODE
MODEL	
From USB to RS485 or TTL Modubus	U
From USB/RS232/RS485 to RS485 or TTL Modubus	-
POWER SUPPLY	
24 Vac/Vdc (A30 only)	L
100... 240 Vac (A30 only)	H
5V supplied by the USB port (A30U only)	-
CONNECTIONS	
Plug-in screw type	E
Plug-in screw type, fix part only	N

CONNECTIONS



DIMENSIONS



APS2 ALDR

POWER SUPPLY FOR SIGMADUE SERIES



Power supply for instruments of sigmadue series.

CODE	DESCRIPTION
APS2 ALDR75-24	Power supply 75W - 24Vdc - 3.2 A
APS2 ALEDR12024	Power supply 120W - 24Vdc - 5 A

APS2 ATOPEH

INDUSTRIAL SWITCHES



Industrial Ethernet switches.

CODE	DESCRIPTION
APS2 ATOPEH2006	6 port Ethernet Switch - Plastic case
APS2 ATOPEH2306	6 port Ethernet Switch - Metallic case
APS2 ATOPEH2308	8 port Ethernet Switch - Metallic case

APS2 MODEM

MODEM GSM/GPRS



Modem GSM/GPRS in metallic case.

CODE	DESCRIPTION
APS2 MODEMG100	Modem for OMEGA DIN A rail mounting Dimensions 73 x 54 mm, depth 25 mm Pws: 230 Vac - 12 Vdc E-GSM Quad-band 850/900/1800/1900 MHz ETSI GSM Phase 2+ Class 4 (2W@ 850/900 MHz) Class 1 (1W@ 1800/1900 MHz) Antenna GSM: SMA-F connector PWS: 5,5 - 32 Vdc (micro-FIT connector) RS232 + Audio conn. female 15-pin Sub-D

BOX-AR

ADAPTERS



Accessories used to adapt an instrument to an already existing hole, but with different mechanical measures.

CODE	DESCRIPTION
BOX 04175	Adapter for hole from 75 x 32 to 58 x 26 mm
BOX 1002	Adapter for hole from 64,4 x 32,4 to 34,3 x 15 mm
ARFQ96D	Adapter for hole from 96 x 96 to 48 x 96 mm
ARFQ96M	Adapter for hole from 96 x 96 to 48 x 48 mm

CAL

PROTECTION COVERS

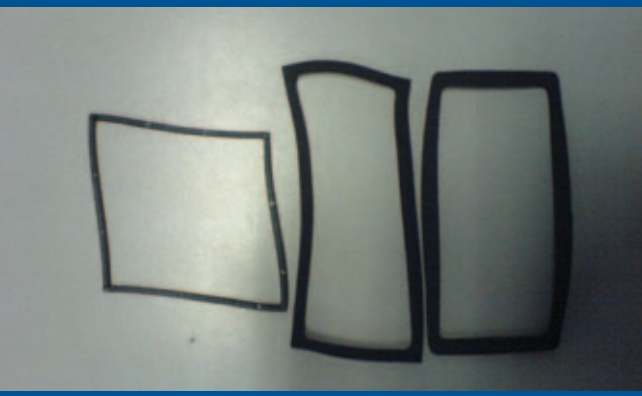


Protection covers made of transparent plastic or soft rubber to protect the front of the instruments. Some models assure the IP65 protection degree.

CODE	DESCRIPTION
CAL48x48-M	48 x 48 mm (soft rubber)
CAL48x48-IP65	48 x 48 mm (Plastic - IP65)
CAL48x96-I	48 x 96 mm (Plastic)
CAL48x96-IP65	48 x 96 mm (Plastic - IP65)
CAL72x72-I	72 x 72 mm (Plastic)
CAL96x96-I	96 x 96 mm (Plastic)
CAL96x96-IP65	96 x 96 mm (Plastic)

GUAR

EXTERNAL GASKETS FOR IP65 PROTECTION DEGREE

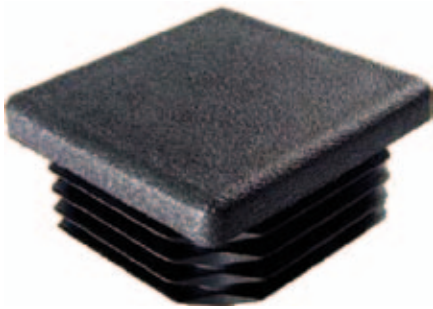


External gaskets in neoprene mousse able to increase the instrument front protection degree.

CODE	DESCRIPTION
GUAR 6993	IP65 gasket for 65 x 33 mm front
GUAR 6927	IP65 gasket for 75 x 33 mm (old style) front
GUAR 6925	IP65 gasket for 78 x 35 mm (new style) front
GUAR 6923	IP65 gasket for 48 x 48 mm front
GUAR 6973	IP65 gasket for 48 x 96 mm front
GUAR 6974	IP65 gasket for 72 x 72 mm front
GUAR 6926	IP65 gasket for 181 x 36 mm front

TAPPO

HOLE COVER



Accessories used to cover an existing hole that it's not possible to leave empty for aesthetic reasons or protection.

CODE	DESCRIPTION
TAPPO 33x75AT	Cover and box for 75 x 33 mm hole
TAPPO 48x48-AT	Cover for 48 x 48 mm hole
TAPPO 48x96	Cover for 48 x 96 mm hole
TAPPO 96x96	Cover for 96 x 96 mm hole

TCTR

EXTERNAL POWER TRANSFORMERS



Accessories available with different ratio of transformation for different instrumentation demands.

CODE	DESCRIPTION
PRIMARY/SECONDARY POWER	
A	24/12 V
C	115/12V
D	230/12V
POWER	
3	3 VA
5	5 VA
10	10 VA

Other models available on request.

TLCOV

EXTENDED FRONT PLATE



Accessories that make it possible to extend the front plate of instruments 78 x 35 mm to 185 x 38 mm. Available also hole plugs and switches to cover the side holes.

CODE	DESCRIPTION
INSTRUMENT TO BE EXTENDED	
XX	Part.no to define the instrument to be extended
POSITION OF THE INSTRUMENT	
D	Instrument mounted on the right side
S	Instrument mounted on the left side
HOLES DIMENSIONS	
--	Holes with \varnothing 20 mm
-1	Left hole with \varnothing 20 mm - Right hole with \varnothing 22 mm
1-	Left hole with \varnothing 22 mm - Right hole with \varnothing 20 mm
11	Holes with \varnothing 22 mm

TR-AMP

CURRENT TRANSFORMERS



Accessories available with different ratio of current for different instrumentation demands.

CODE	DESCRIPTION
TR-AMP-100/02	Ratio 100/0.2
TR-AMP-25/005	Ratio 25/0.05
TR-AMP-200/04	Ratio 200/0.4
TR-AMP-50/005	Ratio 50/0.05
TR-AMP-100/005	Ratio 100/0.05

ZOC

SOCKETS



Accessories available in different executions: to be soldered, with screws.

CODE	DESCRIPTION
ZOC 02203	Octal (IP20)
ZOC 02805	Octal
ZOC 02204	Undecal (IP20)
ZOC 02976	Octal with terminals to be soldered
ZOC 03110	Octal with screws

THERMOELEMENTS

- THERMOCOUPLES
- THERMORESISTANCES
- THERMISTORS
- CABLES AND ACCESSORIES

PROBES AND ACCESSORIES

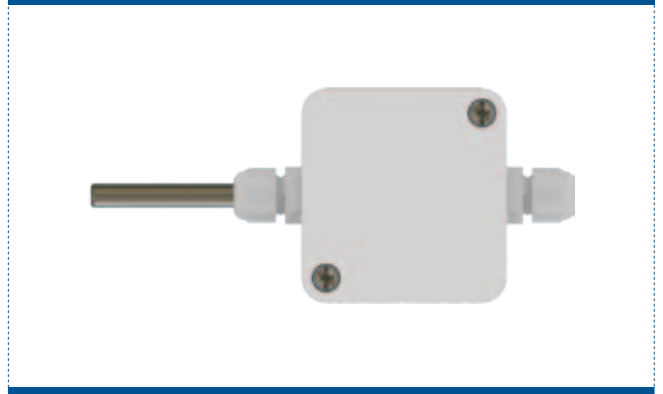
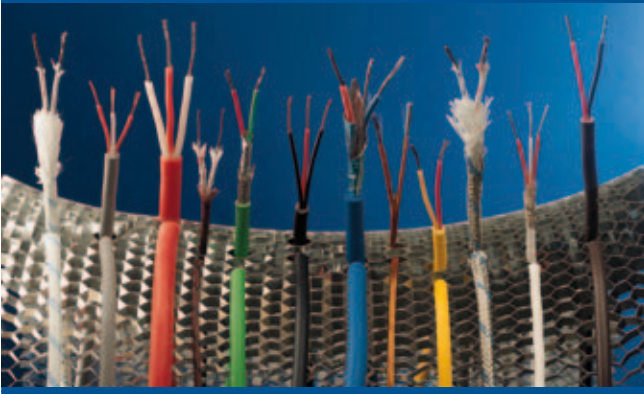
The correct choice of probe is often decisive for the good result of the process control.

We, at Ascon Tecnologica puts at your disposition our experience and technical competence with the purpose to find the correct solution to every application problem...

Examples of possible execution of our thermoelements:

- Probes for machines and small plants
- Flexible probes with MgO insulation
- High pressure probes with replaceable insertion
- High temperature probes with ceramic or metallic sleeve
- Accessories: nipple, thermowell, flanges and so on
- Compensated cables

Our technical team is available to discuss your requirements for custom made products. Get in touch with us.



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SUPERVISION

ACCESSORIES

ANALYTICAL INDEX

A

A01	146
A30	148
ANALOGUE I/O	126
APS2 ALNDR	150
APS2 ALEDR	150
APS2 ATOPEH	150
APS2 MODEM	150
AUTOLINK	138

B

B05	52
BOX-AR	151
BREWERY PAC	102
BSLB4	48

C

CAL	151
CU02	96

D

D7	124
D8	124
D9	124
DIGITAL I/O	128-130
DX	140
DY	140

E

E51	32
E51A	32
E51V	64

G

GUAR	151
------	-----

K

K31D	76
------	----

K31V	60
K38V	60
K48V	62
K85V	62

M

M81	90
MP02	92
MP-D1	94
MP-D2	94
MP-D4	94

O

OPENPCS	98
OPMT	112-114

P

P01	116
P03	52
P04	110
P05	52
P30	116
P32	116

T

TAPPO	152
TCTR	152
TDA	130
THERMOELEMENTS	154
TLB29	44
TLB30	46
TLB55	46
TLBTA	50
TLBCA	50
TLCD	66
TLCOV	152
TLE20	16
TJJ29M	84

TLJ35M	84
TLK31C	80
TLK33	82
TLS35	78
TLW24	42
TLY25	36
TLY26	36
TLY29	36
TLY35	38
TLZ12P	34
TLZ35	40
TR-AMP	153
TVRY	68

W

W09	26
W09Y	26
W09C	26
W09D	78

X

X31L	70
X33H	28
X34	30

Y

Y33	24
Y39	22
Y39C	22
Y39E	22
Y39D	76

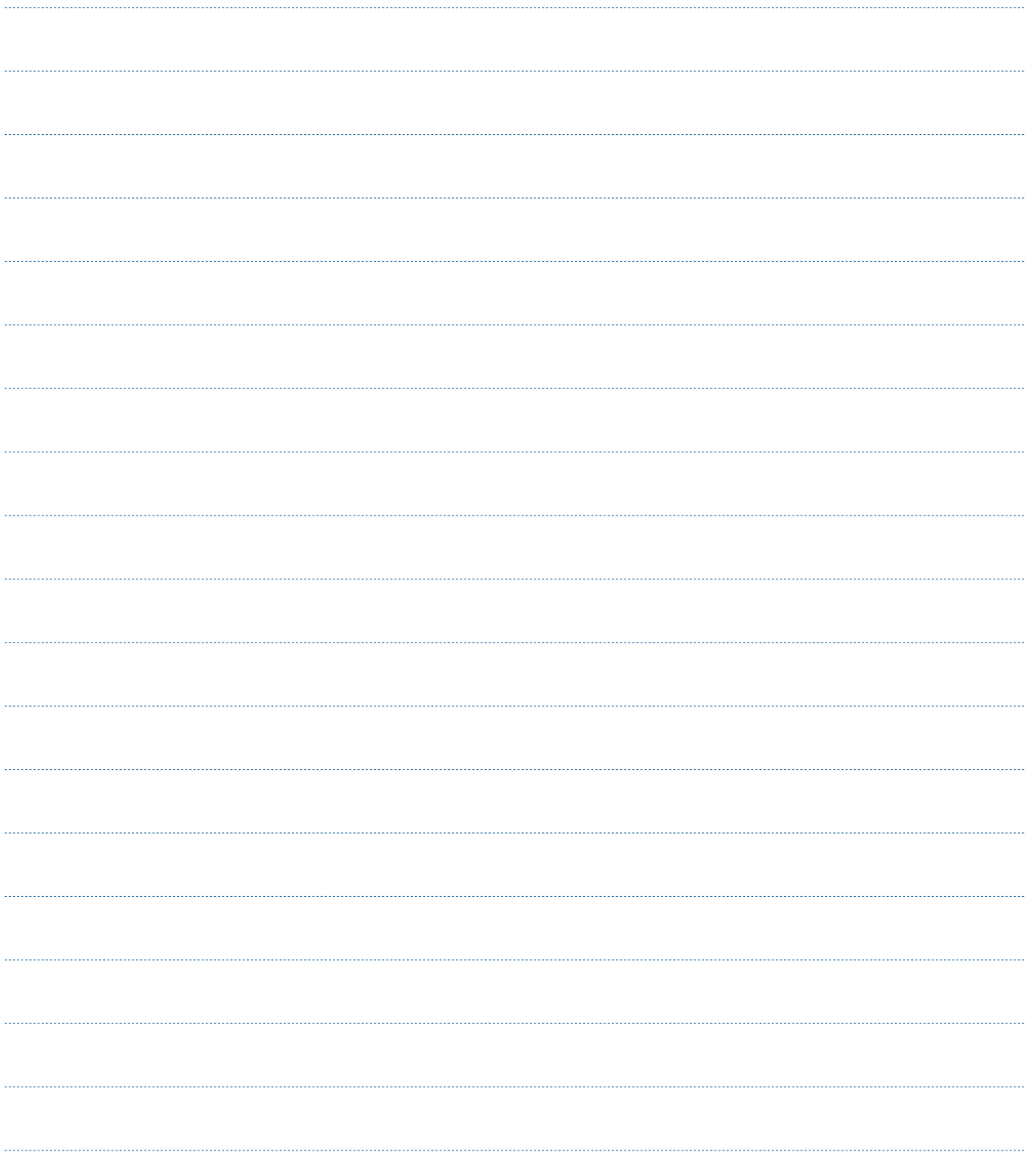
Z

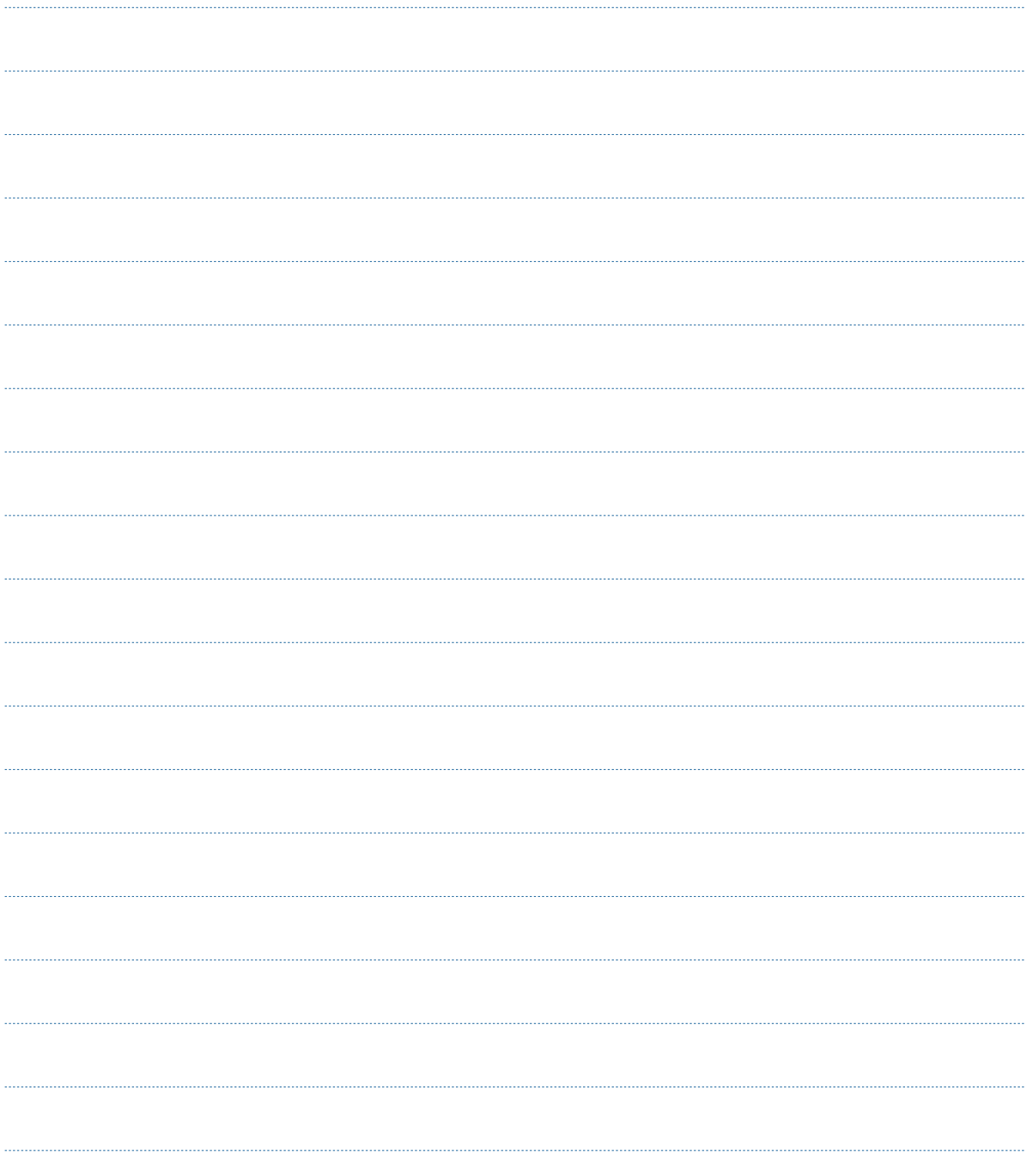
Z30	18
Z31	20
Z31A	20
Z31E	20
Z31Y	20
Z31V	58
Z0C	153

EVERYTHING UNDER CONTROL

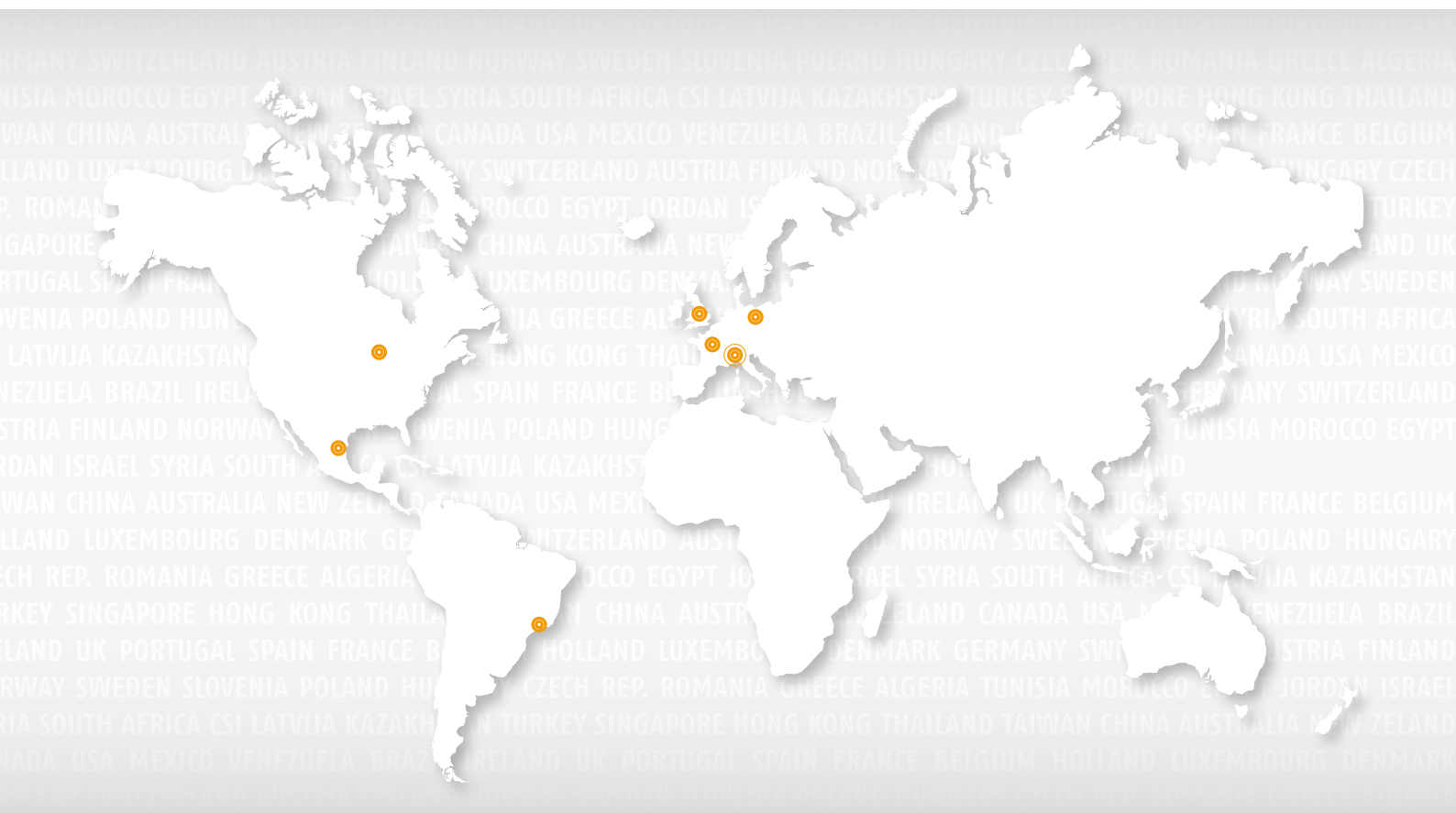
NOTES

A series of horizontal dashed lines for writing notes.









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Printed in January 2016

Printed by:
Tipolitografia Vaccarone - Vigevano (PV)