CX: 32x74mm

L: 38x185mm

IC100 - 1 CIRCUIT - UP TO 2 COMPRESSOR CONTROLLERS

IC100 is Dixell's answer to real management and control requirements of **chiller units and heat pumps** single circuit (gas and water reversibility), with up two compressors or a single compressor with capacity stages, by means of a compact instrument, the possibility of controlling and managing system like:

air / air – "roof top"
air / water
water / water
motor-condensing
refrigeration dryers

This family of advanced multifunction controllers is available in CX or L formats to fit in with whatever space is available.

PLUS

- Single compressor stand-by
- Forced defrosting
- Combined defrosting
- Twin compressor functioning
- Open collector output polarity management
- Unloading function
- Alarm control, even in stand-by or remote off
- Alarm reset password
- 4÷20mA output for condensing management
- NTC, 4÷20mA and 0÷5V ratiometric analogue input
- Internal data logger (up to 50 alarm)
- Real time clock
- Energy saving
- Easy programming through HOT KEY or PC (PROG TOOL KIT)
- TTL (convertible in RS485) serial output with ModBUS protocol

DISPLAY ICON	MEANING
°C	Celsius degrees
°F	Fahrenheit degrees
bar	Bar
PSI	PSI
1	Compressor 1
2	Compressor 2
	Unit on - heat pump status
	Unit on – chiller
	Defrost start delay / Defrost on
	RTC
	Water pump - Supply fan
	Anti-freezing heater
	Generic alarm
L/LP	Low pressure alarm
menu	Function menu
	Stand-by unit (for L format)
	Condenser fan
	Open collector output on (for CX format)
H/HP	High pressure alarm
Vset	Dynamic set / Energy saving on
Flow!	Flow alarm

COMPLETE

The **dual display** and the **icons** display complete information about the machine status. With a single touch of one key, all main functions of the cooling system are displayed without the need to enter programming mode.

CONDENSER FAN SPEED MANAGEMENT

Whether with the CX or the L format, it's possible to manage, in proportionally, the speed of the condenser fan, without the need to use external devices; the fans are directly connected to the instrument. The loads controlled are:

- for CX format: max 500Watt up to 2A;
- for L format: max 1000Watt up to 4A.

CONNECTIONS

All the controllers of the ICHILL series, have connection for rapid wiring. Dixell offers several solutions that make the instruments compatible with other products that are already on the market.

IC110

1 CIRCUIT AND 1 COMPRESSOR CONTROLLERS

CX/CXI: 32x74mm

L: 38x185mm

IC110CX IC110L	Advanced multifunction controllers for chillers with 1 circuit and 1 compressor
IC111CX IC111CXI IC111L	Advanced multifunction controllers for chiller/heat pumps with 1 circuit and 1 compressor

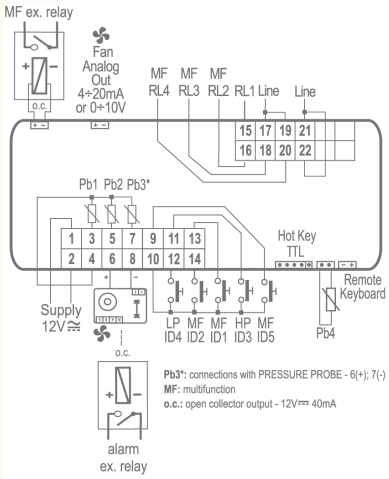
FEATURES	IC110CX – IC111CX	IC111CXI	IC110L – IC111L
First display	± 4 d.p.	± 4 d.p.	± 3 d.p.
Second display	± 4 d.p.	± 4 d.p.	± 4 d.p.
Keyboard: push buttons	6	6	6
Power supply	12Vac/dc (24Vac/dc)	12Vac/dc (24Vac/dc)	12Vac/dc (24Vac/dc) (110/230Vac)
Probe inputs			
Pb1	NTC config	NTC config	NTC config
Pb2	NTC config	NTC config	NTC config
Pb3	NTC/4÷20mA/0,5V config	NTC/4÷20mA/0,5V config	NTC/4÷20mA config
Pb4	NTC/dig inp config	NTC/dig inp config	NTC/dig inp config
Digital inputs			
High pressure	pres	pres	pres
Low pressure	pres	pres	pres
N° 4	config	config	config
Relay outputs			
RL1 Compressor 1	° 8A	5A	8A
RL2	° 8A config	5A config	8A config
RL3	8A config	5A config	8A config
RL4	° 8A config	5A config	8A config
RL5	° (8A config)	(5A config)	(8A config)
Other outputs			
Analogue output for fan speed module	(4÷20mA) or (0÷10V)	(4÷20mA) or (0÷10V)	(4÷20mA)
Signal output for triac or ON/OFF fan mod.	* PWM	PWM	PWM
Open collector output	12Vdc-40mA max	12Vdc-40mA max	12Vdc-40mA max
Remote keyboards	VICX610	VICX610	VI610
Serial output	TTL	TTL	TTL
Hot Key/Prog Tool Kit output	pres	pres	pres
Other			
Triac module inside	(2A)	2A	(2A) or (4A)
RTC	( )	( )	( )
Buzzer	( )	( )	( )

° With triac module: RL1 = 5A - RL2 = 5A - RL4 = 5A config - RL5 = no present

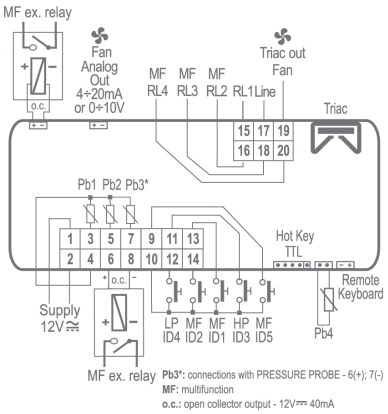
* PWM output becomes output configured for aux relay control, when the triac is incorporated

( ) optional

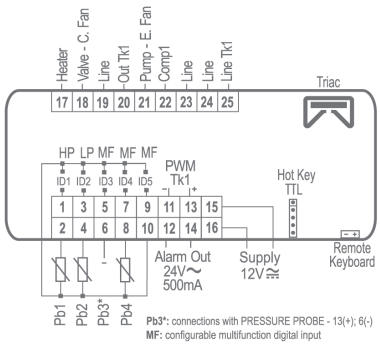
IC110CX - IC111CX



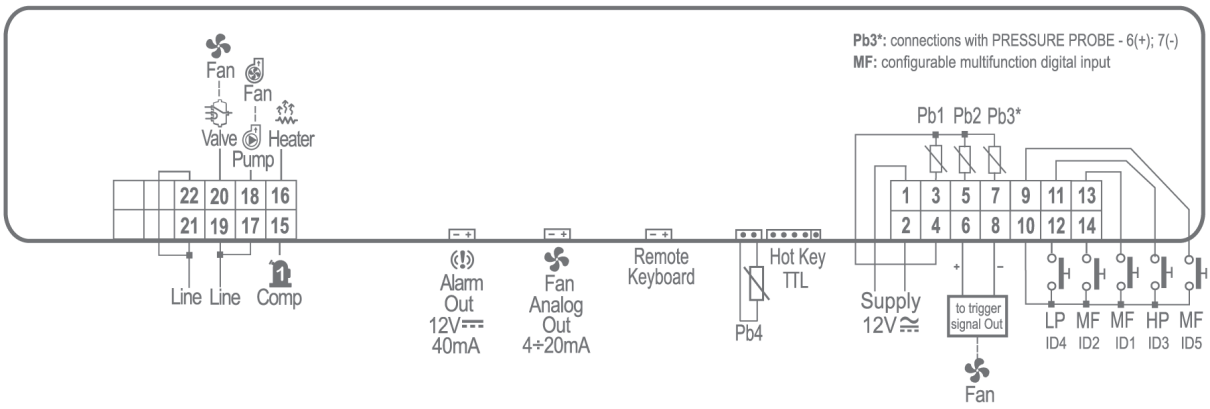
IC110CX - IC111CX (triac module inside)



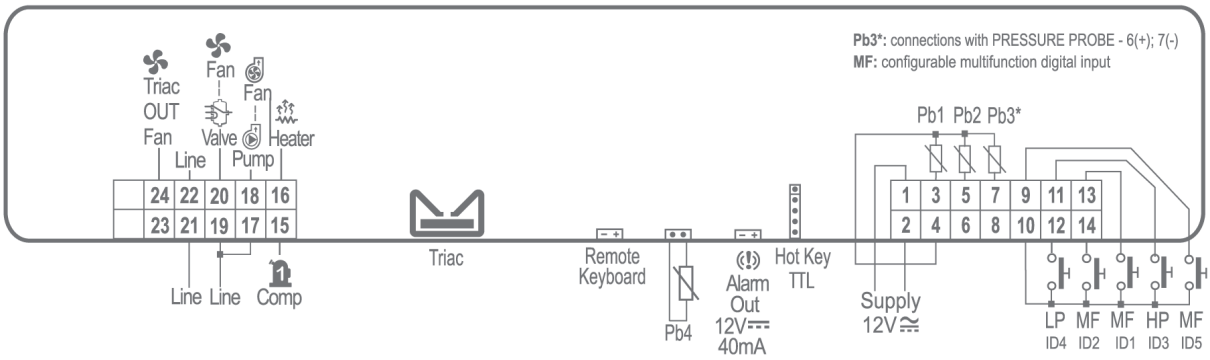
IC111CXI (triac module inside)



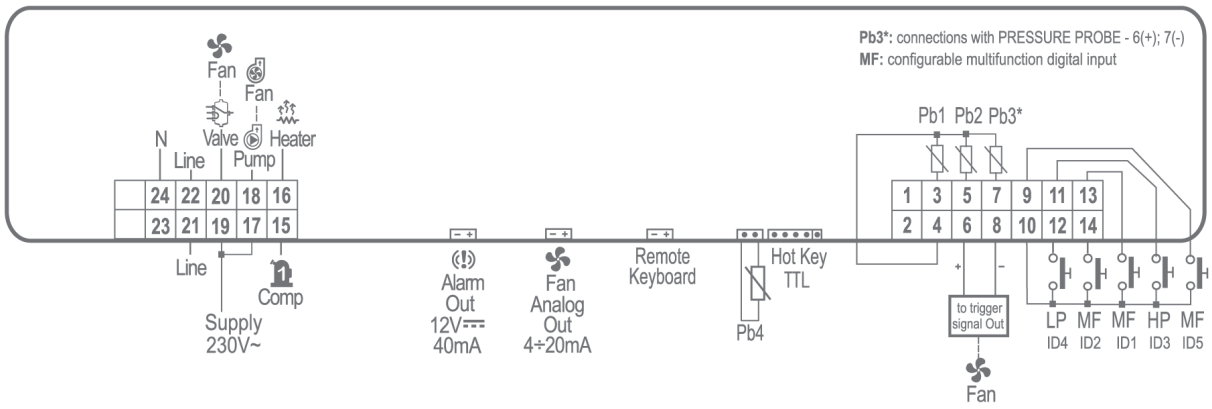
IC110L - IC111L (12, 24Vac/dc power supply)



IC110L - IC111L (triac module inside)



IC110L - IC111L (110, 230Vac power supply)



IC120

1 CIRCUIT AND 2 COMPRESSOR CONTROLLERS

CX: 32x74mm

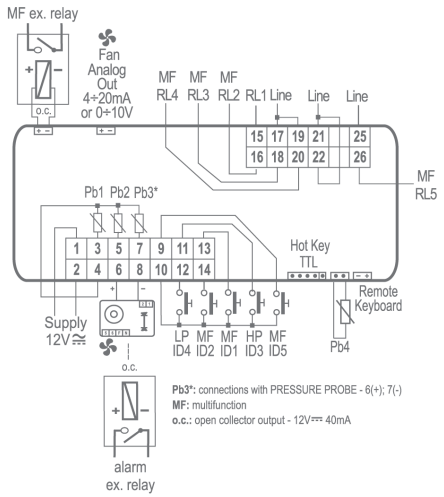
L: 38x185mm

IC120CX IC120L	Advanced multifunction controllers for chillers with 1 circuit and 2 compressors
IC121CX IC121L	Advanced multifunction controllers for chiller/heat pumps with 1 circuit and 2 compressors

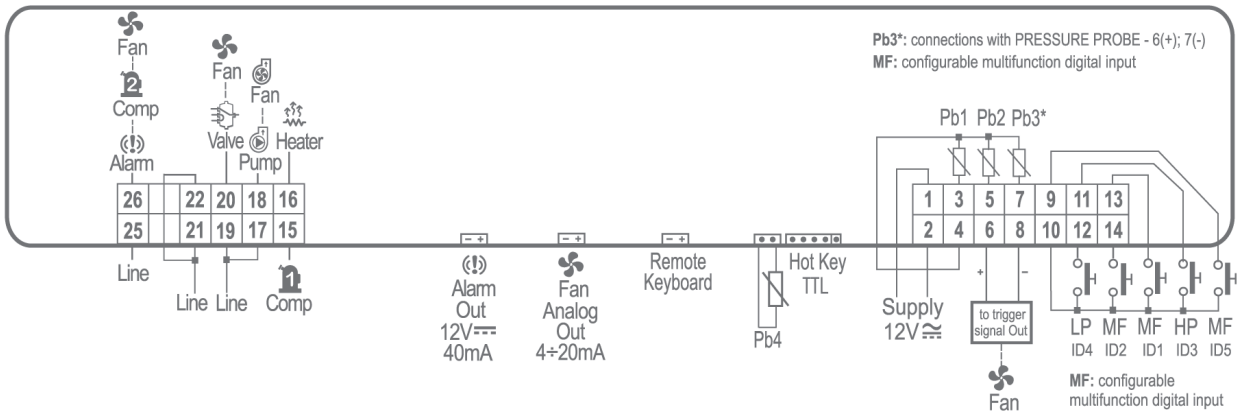
FEATURES	IC120CX - IC121CX	IC120L - IC121L
First display	± 4 d.p.	± 3 d.p.
Second display	± 4 d.p.	± 4 d.p.
Keyboard: push buttons	6	6
Power supply	12Vac/dc (24Vac/dc)	12Vac/dc (24Vac/dc) (110/230Vac)
Probe inputs		
Pb1	NTC config	NTC config
Pb2	NTC config	NTC config
Pb3	NTC/4÷20mA/0,5V config	NTC/4÷20mA config
Pb4	NTC/dig inp config	NTC/dig inp config
Digital inputs		
High pressure	pres	pres
Low pressure	pres	pres
N° 4	config	config
Relay outputs		
RL1 Compressor 1	8A	8A
RL2	8A config	8A config
RL3	8A config	8A config
RL4	8A config	8A config
RL5	8A config	8A config
Other outputs		
Analog output for fan speed module	(4÷20mA) or (0÷10V)	(4÷20mA)
Signal output for triac or ON/OFF fan mod.	PWM	PWM
Open collector output	12Vdc-40mA max	12Vdc-40mA max
Remote keyboards	VICX610	VI610
Serial output	TTL	TTL
Hot Key/Prog Tool Kit output	pres	pres
Other		
Triac module inside		(2A) or (4A)
RTC	( )	( )
Buzzer	( )	( )

( ) optional

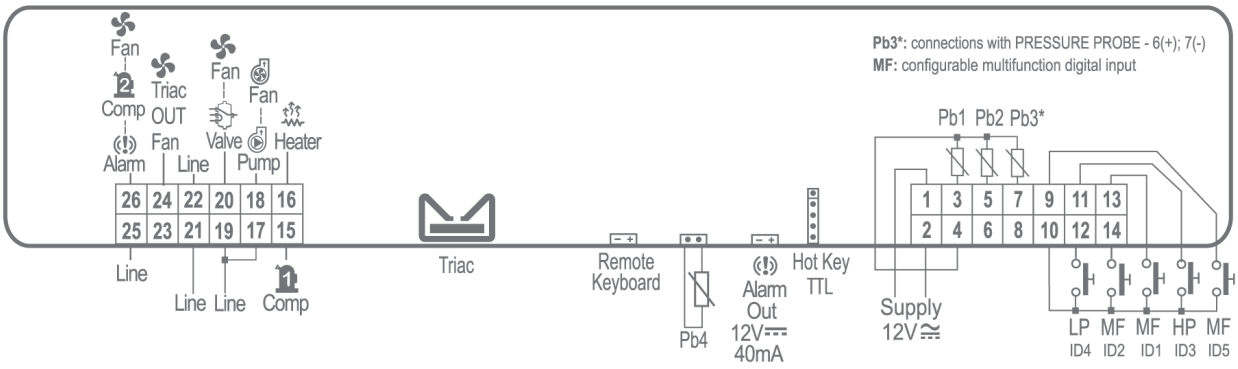
IC120CX - IC121CX



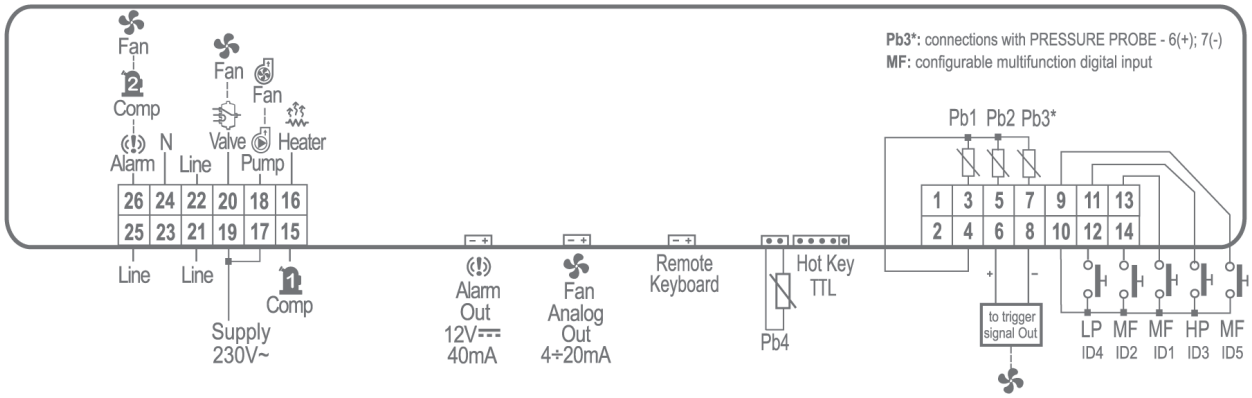
IC120L - IC121L (12, 24Vac/dc power supply)



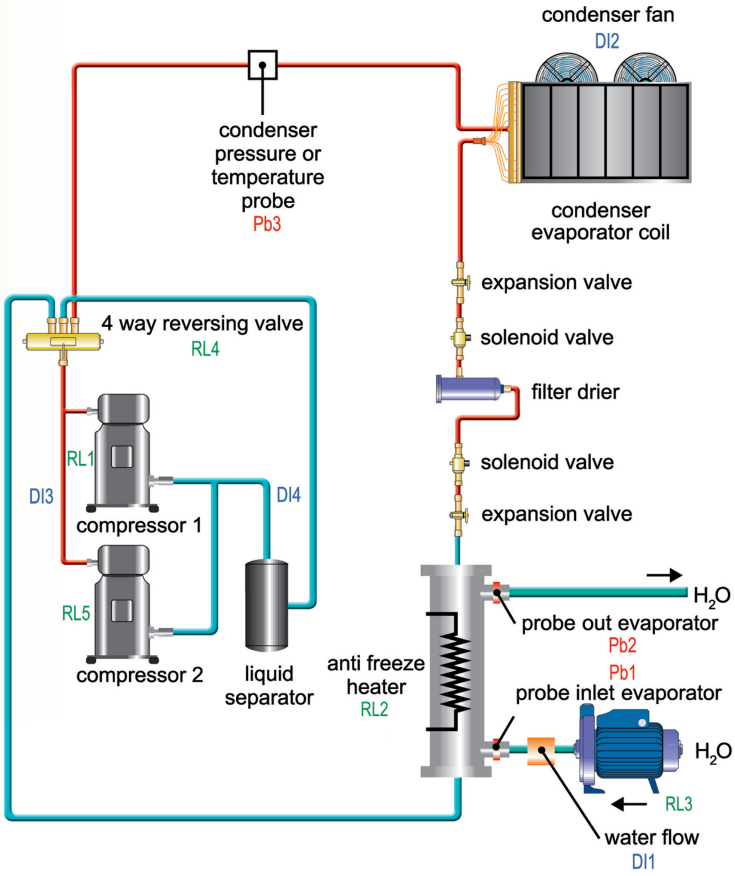
IC120L - IC121L (triac module inside)

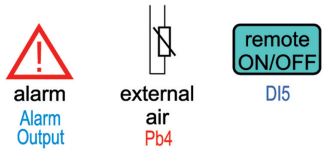


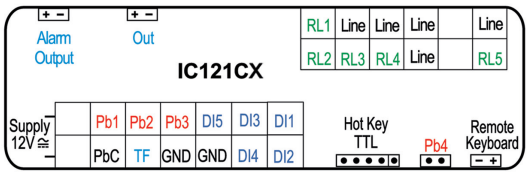
IC120L - IC121L (110, 230Vac power supply)



EXAMPLE OF APPLICATION FOR 1 CIRCUIT UP TO 2 COMPRESSOR AIR/WATER CHILLER







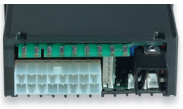
TECHNICAL FEATURES

HOUSING:	self extinguishing ABS
CASE:	CX: frontal 32x74mm; depth 60mm L: frontal 38x185mm; depth 76mm
MOUNTING:	CX: panel mounting in a 29x71mm cut-out L: panel mounting in a 31x150mm cut-out
FRONT PROTECTION:	IP65 with gasket
CONNECTIONS:	disconnectable connectors (12-14 pin or 14-6 pin or 16-9 pin)
POWER SUPPLY:	12Vac/dc -10% ÷ +15%, 24Vac/dc ±10% 50/60Hz 110/230Vac ±10% 50/60Hz
POWER ABSORPTION:	5VA max
PROBE INPUTS:	4 NTC or 3 NTC + 1 (4÷20mA)/0,5V
CONFIGURABLE DIGITAL INPUTS:	4
RELAY OUTPUTS:	SPDT 8(3)A, 250Vac, SPDT 5(2)A, 250Vac
EXTERNAL RELAY OUTPUT:	0÷12Vdc- 40mA max
ANALOG OUTPUT:	PWM signal (single-fan module), 4÷20mA (fan module), 0÷10V (fan module)
DATA STORING:	on the non-volatile memory (EEPROM)
OPERATING TEMPERATURE:	-10÷60°C (14÷140°F)
STORAGE TEMPERATURE:	-30÷85°C (-22÷185°F)
RELATIVE HUMIDITY:	20÷85% (non condensing)
MEASURING AND REGULATION RANGE:	pressure probe: 0÷50bar, NTC probe: -40÷110°C (-40÷230°F)
RESOLUTION:	0,1°C or 1°F (selectable)
ACCURACY (ambient temperature):	± 0.7°C ± 1 digit

HOW TO ORDER

IC100CX | I | C | 1 | | | C | X | - | A | B | C | D | 0 |

IC111CXI | I | C | 1 | 1 | 1 | C | X | I | - | A | B | 4 | D | 0 |



A – Power supply

0 = 12Vac/dc
1 = 24Vac/dc

B – Regulation inputs

0 = 4xNTC
1 = 3xNTC + 4÷20mA
2 = 3xNTC + 0÷5V

C – IC110CX / IC111CX - Options

	4÷20mA	Aux	Triac 2A	0÷10V
0 =	No	No	No	No
1 =	No	Yes	No	No
2 =	Yes	No	No	No
3 =	Yes	Yes	No	No
4 =	No	No	Yes	No
5 =	No	No	No	Yes
6 =	No	Yes	No	Yes
7 =	No	No	Yes	Yes

C – IC120CX / IC121CX - Options

	4÷20mA	0÷10V
0 =	No	No
1 =	Yes	Yes
2 =	No	Yes

D – Measurement unit

	Buzzer	RTC
0 =	No	No
1 =	Yes	No
2 =	No	Yes
3 =	Yes	Yes

IC100L | I | C | 1 | | | L | - | A | B | C | D | E |

For Inox version please contact ECD

A – Power supply

0 = 12Vac/dc
1 = 24Vac/dc
4 = 110Vac
5 = 230Vac

B – Regulation inputs

0 = 4xNTC
1 = 3xNTC + 4÷20mA

C – IC110L / IC111L - Options

	4÷20mA	Aux	Triac 2A	Triac 4A
0 =	No	No	No	No
1 =	No	Yes	No	No
2 =	Yes	No	No	No
3 =	Yes	Yes	No	No
4 =	No	Yes	Yes	No
5 =	No	No	Yes	No
6 =	No	No	No	Yes
7 =	No	Yes	No	Yes

C – IC120L / IC121L - Options

	4÷20mA	Triac 2A	Triac 4A
0 =	No	No	No
1 =	Yes	No	No
2 =	No	Yes	No
3 =	No	No	Yes

D – Measurement unit

0 = °C / bar
1 = °F / PSI
2 = °C / KPA

E

	RTC	Data logger	Buzzer
0 =	No	No	No
1 =	No	No	Yes
2 =	Yes	No	Yes
3 =	Yes	No	No
4 =	No	Yes	No
5 =	No	Yes	Yes
6 =	Yes	Yes	No
7 =	Yes	Yes	Yes