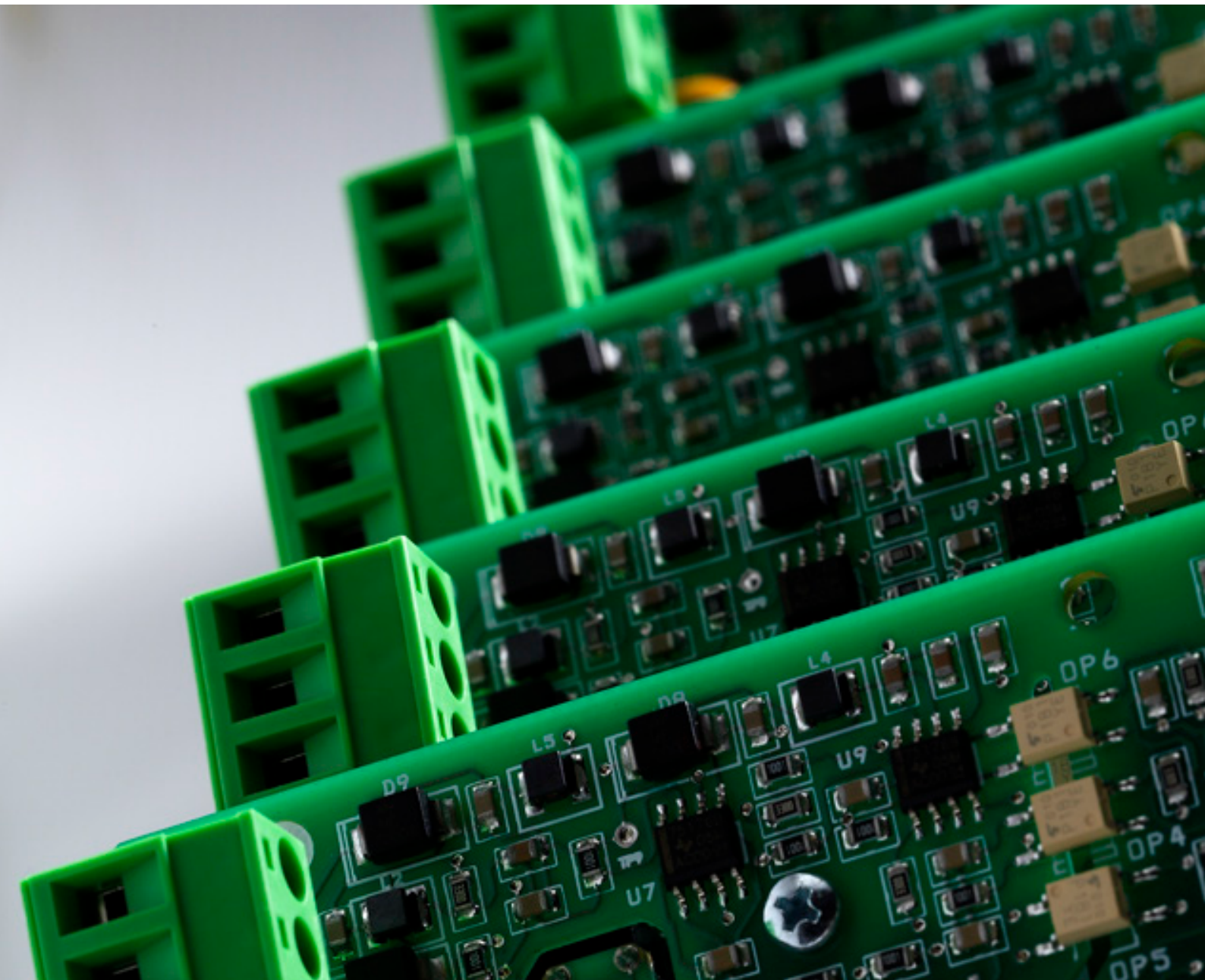
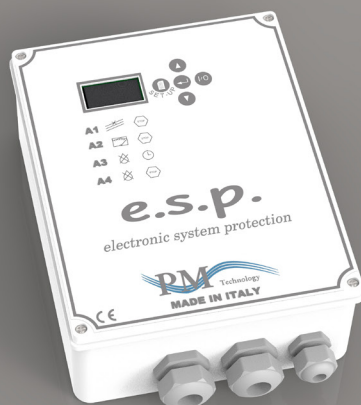




CONTROL PANELS



Made in Italy



ELECTRONIC SYSTEM PROTECTION

E.S.P. is a control board for the protection and control of electro-pumps.

The main feature of this device is the protection of the motor pump from dry running by checking the motor cosphi.

Cosphi and current motor parameters can be manually set by the operator (**MANUAL FUNCTION**), by inserting a minimum Cosphi threshold value and a maximum current value. If these values are exceeded, the device will activate to protect the motor pump.

In addition to manual operation, the *E.S.P.* has an automatic mode (**AUTOMATIC FUNCTION**) with which it can automatically set necessary cosphi and current value to protect the motor pump.

All settings and displays are done through a keyboard and a display.

E.S.P. is available as three-phase and single-phase version: the latter comes with the possibility to insert a capacitor (**not included**).

E.S.P. is also supplied with a digital auxiliary input device to start or stop the pump. A float, a pressure switch, ..., may be connected to this input.

MAIN FEATURES AND PROTECTIONS

- Protection against dry running and automatic reset of protection after 10-20-40-80-(120x10 times) minutes
- Electrical protection against motor overload
- Protection against no-phase (three-phase version)
- Protection against over voltage
- Output with cable glands
- IP 55 protection class

SPECIFICATIONS *E.S.P.* - 50/60Hz

Type	Approximate Power		Phase	Voltage [V]	Max. Current [A]	Weight [Kg]	Dimension [mm]
	[Hp]	[kW]					
Sline20	0,5 - 3	0,37 - 2,2	1	230	20	1,8	240 x 190 x 90
Tline10	0,5 - 4	0,37 - 3	3	400	10	1,8	240 x 190 x 90
Tline20	5,5 - 10	4 - 7,5	3	400	20	1,8	240 x 190 x 90
Tline30	12,5 - 15	9,2 - 11	3	400	30	2,4	240 x 190 x 90



CONTROL BOX

C-BOX series of control panels are designed to protect single-phase electropumps.

Endowed with thermal-amperometric protection and start capacitor, in proportion with motor size.

MAIN FEATURES AND PROTECTIONS

- Box made of thermoplastic insulating material
- On / Off switch
- Externally resettable thermal protection
- Output with cable glands
- IP 54 protection class
- Upon request, it's possible to supply them with plug for power outlet

SPECIFICATIONS C-BOX - 50Hz

Type	Power		Voltage [V]	Protect. [A]	Capacitor [μF]	Weight [Kg]	Dimension [mm]
	[Hp]	[kW]					
C-BOX20	0,5	0,37	220/230	5	20	0,75	170 x 150 x 70
C-BOX20D	0,5	0,37		5	20+(36/43)	1	200 x 155 x 80
C-BOX25	0,75	0,55	220/230	7	25	0,75	170 x 150 x 70
C-BOX25D	0,75	0,55		7	25+(53/64)	1	200 x 155 x 80
C-BOX35	1	0,75	220/230	8	35	0,75	170 x 150 x 70
C-BOX35D	1	0,75		8	35+(88/106)	1	200 x 155 x 80
C-BOX40	1,5	1,1	220/230	11	40	0,75	170 x 150 x 70
C-BOX40D	1,5	1,1		11	40+(110/125)	1	200 x 155 x 80
C-BOX60	2	1,5	220/230	14	60	1	200 x 155 x 80
C-BOX60D	2	1,5		14	60+(125/160)	1,6	255 x 195 x 100
C-BOX70	3 WM	2,2	220/230	20	70	1	200 x 155 x 80
C-BOX70D	3 WM	2,2		20	70+(200/250)	1,6	255 x 195 x 100
C-BOX80	3 OM	2,2	220/230	20	80	1	200 x 155 x 80
C-BOX80D	3 OM	2,2		20	80+(200/250)	1,6	255 x 195 x 100
C-BOX90	4	3	220/230	30	90	1,6	255 x 195 x 100
C-BOX90D	4	3		30	90+(250/300)	2,4	310 x 240 x 110
C-BOX100D	5	3,7	220/230	32	100+(250/300)	2,4	310 x 240 x 110
C-BOX120D	5,5	4	220/230	35	120+(250/300)	2,4	310 x 240 x 110

SPECIFICATIONS C-BOX - 60Hz

Type	Power		Voltage [V]	Protect. [A]	Capacitor [μF]	Weight [Kg]	Dimension [mm]
	[Hp]	[kW]					
C-BOX20-62	0,5	0,37	220/230	6	20	0,75	170 x 150 x 70
C-BOX80-61	0,5	0,37	110/115	11	80	1	200 x 155 x 80
C-BOX25-62	0,75	0,55	220/230	8	25	0,75	170 x 150 x 70
C-BOX100-61	0,75	0,55	110/115	14	100	1	200 x 155 x 80
C-BOX35-62	1	0,75	220/230	9	35	0,75	170 x 150 x 70
C-BOX120-61	1	0,75	110/115	18	120	1,6	255 x 195 x 100
C-BOX40-62	1,5	1,1	220/230	12	40	0,75	170 x 150 x 70
C-BOX40D-62	1,5	1,1		12	40+(110/125)	1	200 x 155 x 80
C-BOX60-62	2	1,5	220/230	14	60	1	200 x 155 x 80
C-BOX60D-62	2	1,5		14	60+(125/160)	1,6	255 x 195 x 100
C-BOX80-62	3	2,2	220/230	20	80	1	200 x 155 x 80
C-BOX80D-62	3	2,2		20	80+(200/250)	1,6	255 x 195 x 100
C-BOX100D-62	5	3,7	220/230	32	100+(250/300)	2,4	310 x 240 x 110
C-BOX120D-62	5,5	4	220/230	35	120+(250/300)	2,4	310 x 240 x 110



CONTROL BOX

CU-BOX series of control panels are designed for the starter of 4" single-phase water cooled submersible motors canned type of 4WMU 60 Hz series.

MAIN FEATURES

- Painted metal container
- Start capacitor for single-phase motors 3-WIRE CSIR (powers from 1/2 to 1 Hp)
- Start + Run capacitor for single-phase motors CSCR (powers from 1.5 to 5 Hp)
- Volumetric Relay
- External access to thermal protection for single-phase motors 3-WIRE CSCR (powers from 1.5 to 5 Hp)
- Suitable for in and outdoor use

SPECIFICATIONS CU-BOX - 60Hz

Type	Power		Voltage [V]	Start Capacitor [mF]	Run Capacitor [mF]	Weight		Dimension	
	[Hp]	[kW]				[Kg]	[lb]	[mm]	[in]
CU-BOX05-61	1/2	0.37	110/115	250-300 (125 V)	-	1.2	2.6	130 x 77 x 215	5.1 x 3 x 8.5
CU-BOX05-62	1/2	0.37	220/230	59-71 (250 V)	-	1.2	2.6	130 x 77 x 215	5.1 x 3 x 8.5
CU-BOX07-61	3/4	0.55	110/115	250-300 (125 V)	-	1.2	2.6	130 x 77 x 215	5.1 x 3 x 8.5
CU-BOX07-62	3/4	0.55	220/230	86-103 (250 V)	-	1.2	2.6	130 x 77 x 215	5.1 x 3 x 8.5
CU-BOX10-62	1	0.75	220/230	105-126 (250 V)	-	1.2	2.6	130 x 77 x 215	5.1 x 3 x 8.5
CU-BOX15-62	1.5	1.1	220/230	105-126 (250 V)	10 (400 V)	2.5	5.5	205 x 240 x 148	8.1 x 9.5 x 5.8
CU-BOX20-62	2	1.5	220/230	105-126 (250 V)	20 (400 V)	2.5	5.5	205 x 240 x 148	8.1 x 9.5 x 5.8
CU-BOX30-62	3	2.2	220/230	208-250 (250 V)	45 (400 V)	2.5	5.5	205 x 240 x 148	8.1 x 9.5 x 5.8
CU-BOX50-62	5	3.7	220/230	270-324 (250 V)	80 (400 V)	2.5	5.5	205 x 240 x 148	8.1 x 9.5 x 5.8



INVERTER CONTROL BOX

WHITE series of inverter electronic panels are developed for the control of asynchronous electropumps and are suitable for installation both on new systems and on existing ones.

MAIN FEATURES

- Extremely durable aluminum box, with excellent thermal dissipation
- Cooling fan that activates on demand
- IP55 protection class
- Smartphone interface
- 2 digital inputs configurable via app
- 2 digital outputs configurable via app
- 1 analog input 4-20mA (dedicated to pressure gauge)
- 1 analog input 4-20mA or 0-10V
- RS485 MODBUS RTU
- Bluetooth® SMART 4.0

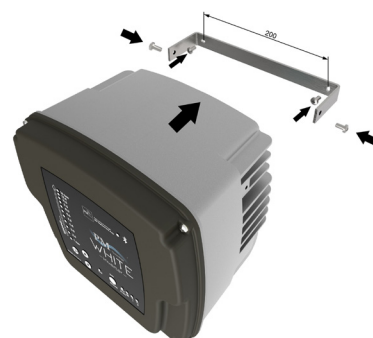
PROTECTIONS

- Protection against dry running
- Protection against over and under voltage
- Electrical protection against motor overload
- Protection against no-phase
- Protection and control of maximum operating temperature

APPLICATIONS

- Water supply
- Submersible pumps
- Water distribution
- Pressurization
- Irrigation systems
- Water treatment
- Industrial cooling or heating systems
- Fountains

DIMENSIONS



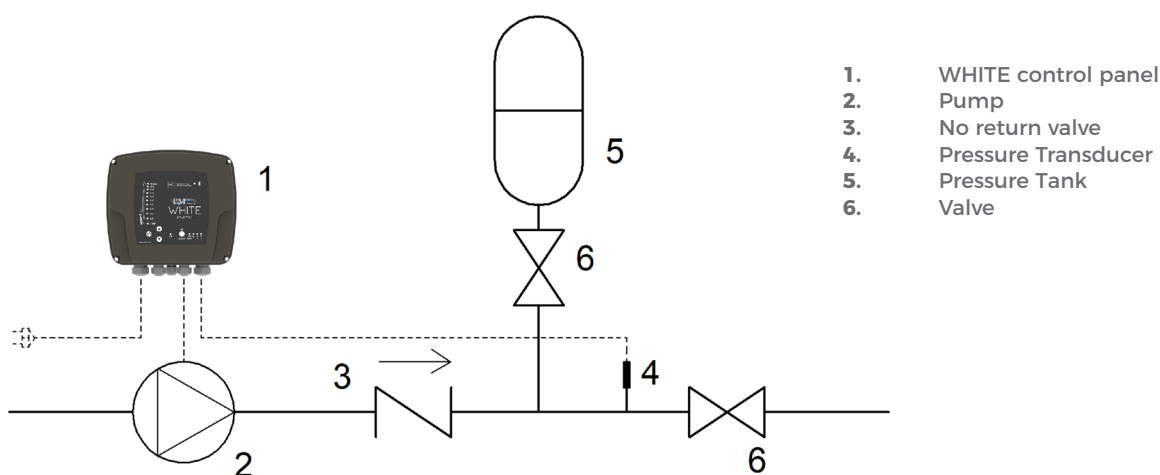
SPECIFICATIONS WHITE - 50/60Hz

Type	V _{in}	V _{out}	Motor I _{max} [A]	Motor P _{2 max} [kW]	Weight [Kg]	Dimension [mm]
WHITE 102	1x230	3x230	7.5	1.5	4.3	253 x 250 x 170
WHITE S 102	1x230	1x230	11	1.5	4.3	253 x 250 x 170
WHITE T 305	3x400	3x400	10	4	4.3	253 x 250 x 170

ADVANTAGES

- Device easy to use and intuitive.
- It ensures the protection of the electropump and the system thanks to specific parameters and controls.
- It extends the life of the electropump: working at a lower speed, it allows to stress less the mechanical parts of the same.
- Possibility to work even in wet environments (IP 55 protection class).
- It guarantees energy savings.
Thanks to WHITE, the electropump can work at variable speed, keeping the pressure constant. The energy consumption will therefore vary according to the real water needs with a consequent economic saving.
- Flexibility: thanks to PM MyConnect app, it's possible to expand the uses and set about 50 parameters in order to adapt the system to the needs of the plant.
- Simplified service procedure: thanks to PM MyConnect app, it's possible to send the current inverter configuration to the PM technicians, in order to analyse any problems or simply to make specific corrections for the system.

CONNECTION DIAGRAM

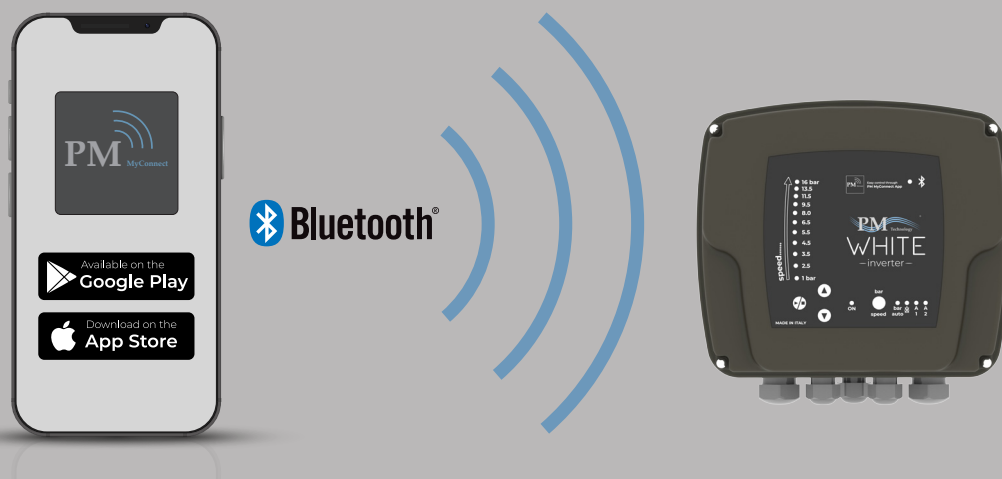


CONTROL THROUGH PM MyConnect App

Thanks to PM MyConnect, it's possible to communicate with all WHITE series devices via Bluetooth®. This app has been specifically developed to:

- Set the nominal sizes of the electropump
- Display the operating parameters
- Program digital inputs and outputs to add functionality to the system
- Receive assistance
- Monitor the electrical consumption and the life hours of the electropump

PM devices in your hands.





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