

PXA R

PANNELLO COMANDI ELETTRONICO PER
VENTILCONVETTORI CON RESISTENZA ELETTRICA

INSTALLAZIONE A BORDO DEL VENTILCONVETTORE O A PARETE

ELECTRONIC CONTROL PANEL FOR FAN COILS WITH
ELECTRIC HEATER

WALL-MOUNTED OR ON BOARD INSTALLATION

PANNEAU DE COMMANDE ELECTRONIQUE POUR
VENTILO-CONVECTEURS AVEC RÉSISTANCE ÉLECTRIQUE

INSTALLATION MURALE OU SUR L'APPAREIL

ELEKTRONISCHE BEDIENTAFEL FÜR
GEBLÄSEKONVEKTOREN MIT ELEKTRISCHEM
HEIZREGISTER

ZUR WANDMONTAGE ODER ZUM EINBAU IN DER MASCHINE

TABLERO DE MANDOS ELECTRÓNICO PARA FAN COILS
CON RESISTENCIA ELÉCTRICA

INSTALACIÓN EN FAN COIL O A PARED



Congratulations on your purchase of the Aermec PXA R control panel with electronic thermostat. Made with high-grade materials in close compliance with safety standards, the "PXA R" is easy to use and will be with you for many years to come.

The regulatory thermostats PXA R are control panels for controlling the fan coils equipped with electrical heating elements, to be installed on the wall or on the machine.

Each control panel can control a single fan coil.

PXA R controls the working of the fan coil on the basis of the mode chosen, the room temperature and the temperature of the water in the circuit, to maintain the desired temperature in the room.

The PXA R thermostats can also control fan coils without electrical heating elements; in this case it is not necessary to use the selector position  (A), but you must reset the dip switch 10 to deactivate the characteristics of the working with heating elements. Before proceeding with the installation, check that the settings of the dip switches correspond to the type of system being used.

The layout of the dip switches shown in this manual indicates all the possible system combinations.

This manual describes the conditions for the installation of fan coils with electric heater inserted on 2-pipe systems, with the possibility to connect an On - Off valve to intercept the water that feeds the battery.

The control panel only consists of mains voltage (230V) electrical circuits; all the inputs for the probes and controls must therefore be correspondingly insulated for this voltage.

The valve servo commands must also be scaled for 230V.

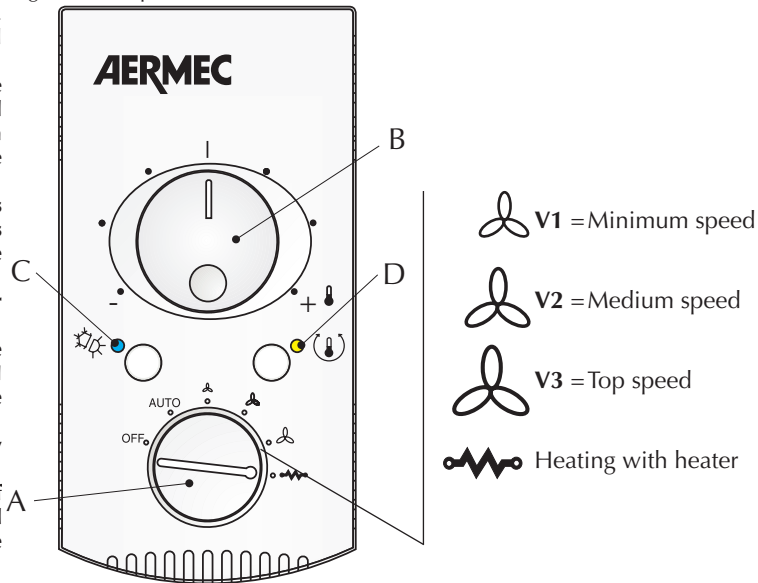
PXA meets the requirement of the Low Voltage directives 73/23 (EN 60730-1, EN 60730-2-9, EN 60335-1) and electromagnetic compatibility directive 89/336 (EN 61000-4-1, EN 55011, 55022, 55014).

The panel may only be opened and installed by specialised personnel.

Cut off the supply voltage before removing the lid of the control panel. Touching live components could electrocute you. This is particularly true also for the setting of contacts on the Sw1 and Sw2 cut outs.

The panel comprises:

- (A) on-off selector switch, (manual or automatic) fan speed and heating with electric heater;
- (B) temperature selector;
- (C) blue / red/ fuchsia LEDs, operation mode (Cooling/ Heating/ Antifreeze/ Autotest)
- (D) yellow led, fan coil operation, Autotest.



OPERATION

The thermostat's job is to keep the temperature set on selector (B) constant in the room.

The selector switch (A) in the **OFF** position take two different functions that can be programmed during installation:

Frost Protection, with selector (A) in the **OFF** position, this prevents the temperature, in rooms that are not used for long periods, from falling below 7°C, which would make it difficult to reheat them when needed.

If the fan coil is fed with warm water it will start in **AUTO** until the room temperature is 9°C.

The fan coil, with selector (A) in  position, if not fed with warm water, will start up in heating mode with the electric heater at medium speed (V2) until the room temperature reaches 9°C.

The Frost Protection function must be programmed by the installation engineer.

All Off, with selector (A) in the **OFF** position, the fan coil is completely switched off.

VENTILATION

In the two-pipe system, the thermostat makes it possible to enable the heating ventilation only if the temperature of the water exceeds 35° or 39°C (programmable in the installation phase); in the same way, the ventilation in the cooling mode is only enabled if the water temperature is less than 17°C or 22°C (programmable during installation).

Ventilation is delayed compared with the start and turn off commands.

The functions described on the one hand prevent unwanted cold ventilation in winter mode and, on the other, allow all the terminals to come on and go off depending on the temperature of the water.

The ventilation mode is set with selector (A).

Manual mode (selector in position V1, V2, V3) the fan uses the On-Off cycles at the selected speed.

Automatic mode (selector in position AUTO) the fan speed is managed by the microcontroller of the PXA R.

The delay between opening or closing of the warm water valve and the turning on or off of the fan can last for up to 2' 40".

Mode using HEATING ELEMENTS (selector in position )

The electric heater cuts in if the temperature of the water in system is not high enough for normal heating operation.

The electrical heating element turns off when the temperature of the water in the system reaches the temperature for the normal heating operation of the fan coil.

The fan speed is managed by the PXA R microcontroller that turns off () speed V1 during normal operation with enabled electric heater (i.e. speed V2 will be used as the minimum speed).

When the heater is turned on, the ventilation starts up at speed V1 that it maintains for forty seconds, then it goes to normal operation with the electric heater.

When the electric heater is turned off, the ventilation continues at speed V2 for another minute to prevent the electric heater from overheating.

AUTOMATIC CHANGEOVER, AIR SIDE

The control makes it possible to automatically set the fan coil functioning mode at heating or cooling.

- In the two-pipe system, no valve systems or those with probe upline from the valve, the functioning mode change is determined by the temperature of the water circulating in the system.

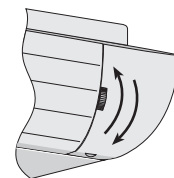
- In systems with probe upline from the valve, the operational mode change is determined by the temperature of the water circulating in the system if this has a value above the enabling threshold.

- In two-pipe systems with probe downline from the valve, and in all the systems without water temperature probes, the change of operational mode is determined by the difference between the temperature measured in the room and the set temperature.

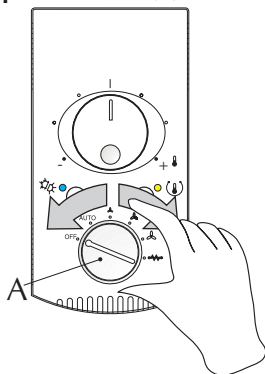
- With the selector (A) in position , the fan coil is only able to function in the Heating mode.

Controls

To turn on the FCX U - FCS U - Omnia HL S / SM - Omnia UL S / MS fan coils, first open the fins.



Speed selector (A)



OFF Power down command. Standstill status might be of two types, Frost Protection or All Off (contact the installation engineer to find out the set configuration).

All Off: The fan coil is turned off.

Frost Protection: The fan coil is off but can start again in heating mode if the room temperature falls below 7°C (the boiler must be on).

AUTO The thermostat keeps the set temperature by changing the fan speed automatically.

 The thermostat keeps the set temperature using the minimum, medium and top speeds of the fan.

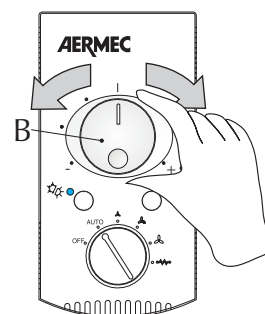
 Operation only in heating mode. The thermostat keeps the temperature set using the average and top speeds of the fan.

The electric heater cuts in if the system's water temperature is not high enough for normal operation.

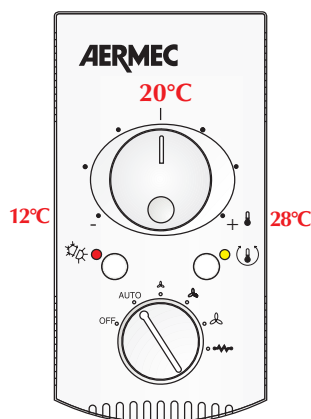
Temperature selector (B);

This permits the required temperature to be set. The temperature corresponding to the selector set at the central position depends on the set functioning mode (Heating 20°C, Cooling 25°C).

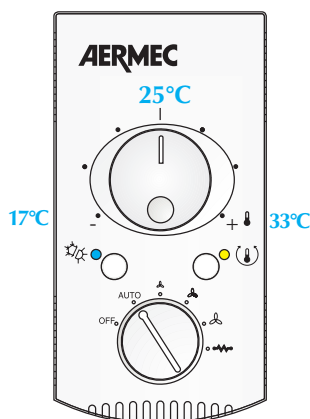
The maximum and minimum temperature differences from the central position are +8°C and -8°C.



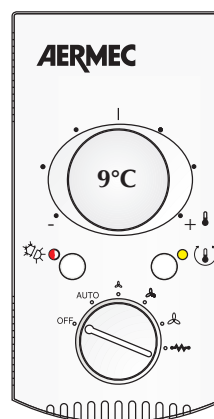
HEATING



COOLING

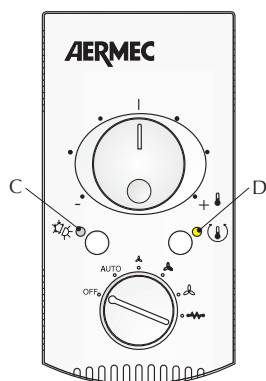


FROST PROTECTION



DISPLAYS

Indicator lights



(C)			(D)	
Red	Blue	Fuchsia	Yellow	Working mode
○	○	○	○	Switched off
●	○	○	●	Heating, with or without heating element
○	●	○	●	Cooling
⏏	○	⏏	○	- Stand by heating (water temperature not sufficient) - Selector (A) in position for fan coil without  heating element
○	⏏	⏏	○	Stand by cooling (water temperature too high)
⏏	○	○	○	Antifreeze
○	○	⏏	⏏	Autotest FOR INSTALLATION
○	○	○	⏏	Contact the After Sales Service

○ = Switched off

● = Switched on

⏏ = Flashing

DIP-SWITCH CONFIGURATION

SETTINGS

To be done in the installation phase, only by expert personnel. Some functions are not compatible with each other and, for this reason, limits to Dip-Switch configurations have been set. By turning on or off Dip-Switches inside the thermostat, we get the following functions:

Sw 1 Dip 1 (Default OFF)

Water valve fitted:

- Present, set (ON).
- Absent, set (OFF).

Sw 1 Dip 2 (Default OFF)

Position of the water temperature probe:

- Water temperature probe positioned upline from the valve, set (ON).
- Water temperature probe positioned downline from the valve, set (OFF).

Sw 1 Dip 3 (Default OFF)

Water valve management:

- Optimised, set (ON).
heating mode: valve closure delayed compared to the turning off of the ventilation;
cooling: valve closure earlier than the turning off of the ventilation.
- Normal, set (OFF).

Sw 1 Dip 4 (Default OFF)

Probe adjustment:

- Fixed adjustment, set (ON).
- Dynamic correction, set (OFF),
calculated on the basis of the water temperature.

Sw 1 Dip 5 (Default OFF)

Heating mode enabling temperature:

- Reduced, set (ON).
Minimum water temperature 35 °C
- Normal, set (OFF).
Minimum water temperature 39 °C.

Sw 1 Dip 6 (Default OFF)

Cooling mode enabling temperature:

- Reduced, set (ON).
Maximum water temperature 22°C
- Normal, set (OFF).
Maximum water temperature 17°C

Sw 2 Dip 1 (Default OFF)

Selection of the type of system in which the fan coil is inserted:

- four-pipe system - set (ON).
- two-pipe system - set (OFF).

Sw 2 Dip 2 (Default OFF)

Option not available

Sw 2 Dip 3 (Default OFF)

Air temperature probe enabling:

- Internal control panel probe, set (ON).
- Probe in fan coil, set (OFF).

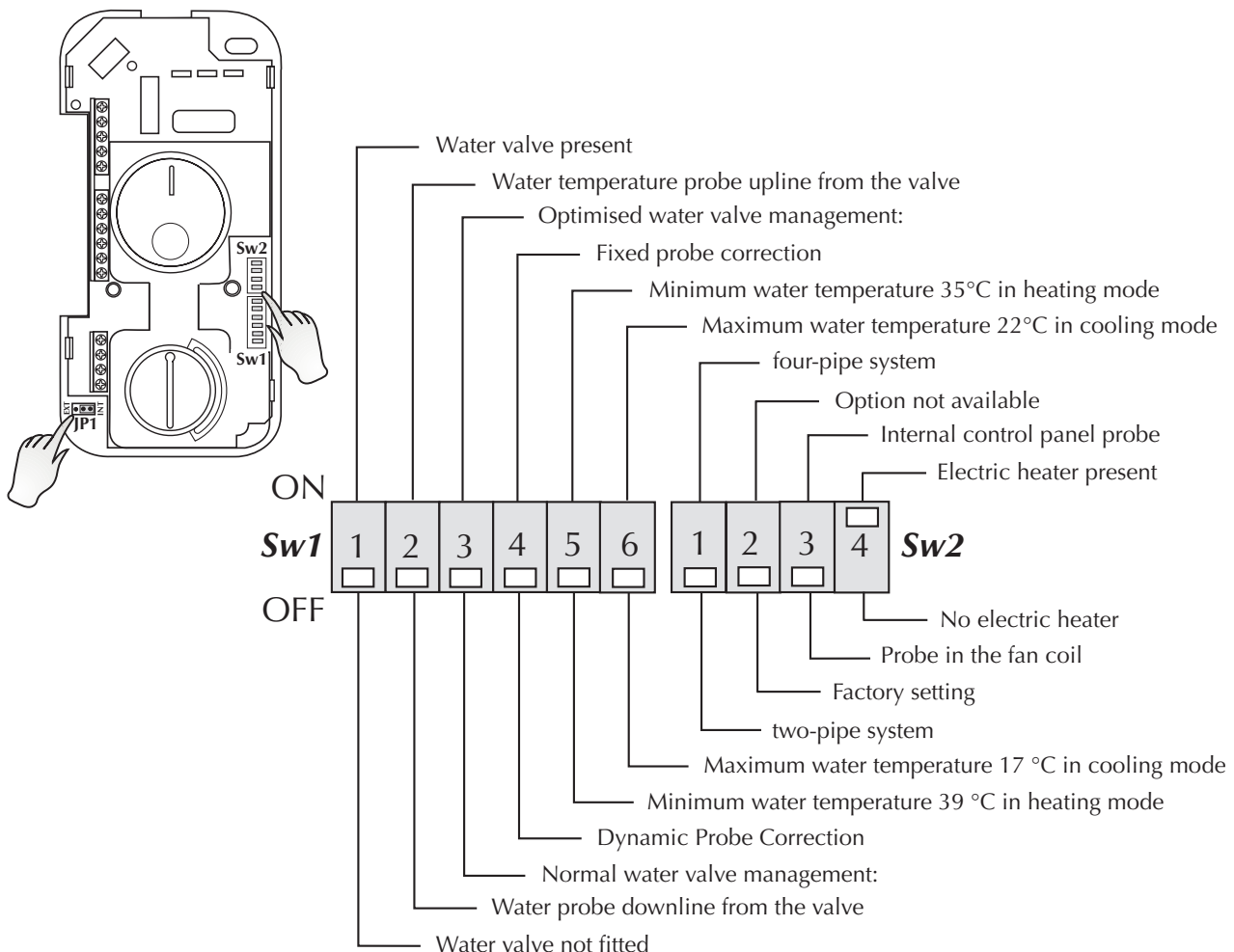
Sw 2 Dip 4 (Default ON)

Presence of the electric heater:

- Present, set (ON).
- Absent, set (OFF).

NOTES:

- In the fan coils equipped with an electrical heating element, the installation of the battery at an additional rank (accessory) is not permitted.
- For the correct functioning of the ambient probe SA, check the setting of Sw2 Dip3 and the position of the jumper JP1 (EXT/INT).



LEGENDA • READING KEY • LEGENDE • LEGENDE • LEYENDA

CE	= Contatto esterno External control Contact extérieur Externer Kontakt Contacto externo	SC	= Scheda di controllo Electronic control board Platine de contrôle Steuerschaltkreis Tarjeta de control	Y1	= Valvola a tre vie Three way valves Vanne à trois voies Dreiwegeventil Válvula agua de 3 vías
IG	= Interruttore magnetotermico Main switch Interrupteur général Hauptschalter Interrupor magnetotérmico	SA	= Sonda aria Room sensor Sonde ambiante Raumtemperaturfühler Sonda ambiente	Y2	= Resistenza elettrica Electric heater Résistance électrique El. Heizregister Resistencia eléctrica
L	= Linea Line Ligne Phasenleiter Línea	SW	= Sonda acqua batteria Water sensor Sonde eau Fühler Wassertemperatur Sonda temperatura del agua	← - - -	= Collegamenti a cura dell'installatore Connections to be made by installer Branchements aux bons soins de l'installateur Bauseitig durchzuführende verdrahtung Conexiones a efectuar en el lugar de instalación
N	= Neutro Neutral Neutre Neutralleiter Neutro	V1	= Velocità minima Minimum fan speed Vitesse minimale Mindestgeschwindigkeit Velocidad mínima	 	= Componenti non forniti Components not supplied Composants non fournis Nicht gelieferte Komponenten Componentes no suministrados
MV	= Motore ventilatore Fan motor Moteur ventilateur Lüftermotor Motor ventilador	V2	= Velocità media Medium fan speed Vitesse moyenne Mittlere Geschwindigkeit Velocidad media		
PE 	= Collegamento di terra Earthing connection Branchement à la terre Erdung Toma de tierra	V3	= Velocità massima Maximum fan speed Vitesse maximale Höchstgeschwindigkeit Velocidad máxima		

CARATTERISTICHE DEI CAVI DI COLLEGAMENTO

Usare cavi tipo H05V-K oppure N07V-K con isolamento 300/500 V se incassato in tubo o canalina.

Per installazioni con cavo in vista usare cavi con doppio isolamento di tipo H05W-F.

CARACTERISTIQUES DES CABLES DE RACCORDEMENT

Utiliser des câbles du type H05V-K ou N07V-K avec isolation 300/500 V en cas d'installation dans une conduite ou une goulotte.

Pour des installations avec câble apparent, utiliser des câbles à double isolation du type H05W-F.

CONNECTION CABLE SPECIFICATIONS

Use H05V-K or N07V-K type with 300/500 V insulation if piped or ducted.

In the case of exposed wiring, use H05W-F type cable with double insulation.

MERKMALE DER ANSCHLUSSKABEL

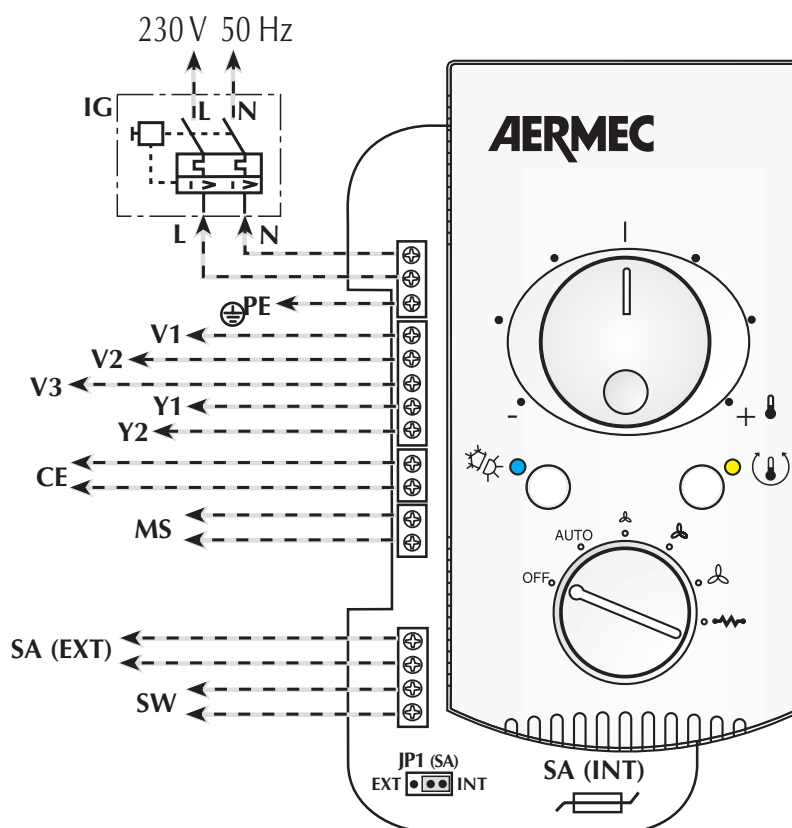
Bei Verlegung im Rohr oder im Kanal Kabel vom Typ H05V-K oder N07V-K mit Isolierung 300/500 V verwenden.

Bei Installationen mit offenliegendem Kabel doppelte Isolierung vom Typ H05W-F verwenden.

CARACTERÍSTICAS DE LOS CABLES DE CONEXIÓN

Utilice cables del tipo H05V-K o bien N07V-K con aislamiento 300/500 V si van cubiertos en tubo o en canal de cables.

Para instalaciones con cable a la vista, utilice cables con doble aislamiento de tipo H05W-F.



Gli schemi elettrici sono soggetti ad aggiornamento; è opportuno fare riferimento allo schema elettrico allegato all' apparecchio.

Wiring diagrams may change for updating. It is therefore necessary to refer always to the wiring diagram inside the units.

Les schémas électriques peuvent être modifiés en conséquence des mises à jour. Il faut toujours se référer aux schémas électriques dans les appareils.

Die Schaltschemas können geändert werden; es empfiehlt sich immer auf das mit dem Zubehör verpackte El. Schaltschema zu beziehen.

Los esquemas eléctricos están sujetos a actualizaciones; es necesario consultar el esquema eléctrico adjunto al aparato



D A T I ELETTRICI	ELECTRICAL DATA	D O N N E E S ELECTRIQUES	D A T E N Z U R E L E K T R I K	D A T O S ELÉCTRICOS	
ALIMENTAZIONE Tensione Frequenza Potenza Assorbita Il filo di messa a terra PE deve essere collegato	POWER SUPPLY Voltage Frequency Input power The PE ground wire must be connected	ALIMENTATION Tension Fréquence Puissance absorbée Le câble de mise à terre PE doit être raccordé	STROMVERSORGUNG Spannung Frequenz Leistungsaufnahme Der PE-Erdungsdraht muss angeschlossen werden	ALIMENTACIÓN Tensión Frecuencia Potencia absorbida El cable de toma de tierra PE debe conectarse	230V±10% 50 Hz 31VA
CLASSE DEL SOF- TWARE	CLASS OF SOFTWARE	CLASSE DU LOGICIEL	SOFTWARE-KLASSE	CLASE DE SOFTWARE	A
CATEGORIA DI SOVRATENSIONE	OVERVOLTAGE CATE- GORY	CATÉGORIE DE SURTENSION	ÜBERSpannungSKA TEGORIE	CATEGORÍA DE SOBRETENSIÓN	CAT. III
COLLEGAMENTI ELETTRICI Sez. Max. dei cavi per morsetto Alimentazione L, N, PE Sez. min. dei cavi	E L E C T R I C A L WIRINGS Max. cross sect. for control board cables L, N, PE power supply Min. cable cross-sect.	RACCORDEMENTS ÉLECTRIQUES Sect. Max. des câbles pour bornier Alimentation L, N, PE Sect. min. des câbles	E L E K T R I S C H E ANSCHLÜSSE Max. Kabelquerschnitt je Klemme Stromversorgung L, N, PE Min. Kabelquerschnitt	C O N E X I O N E S ELÉCTRICAS Sec. Máx. de los cables por borne Alimentación L, N, PE Sec. mín. de los cables	1.5 mm 31 VA 0.14 mm²
USCITE Comando del ventilato- re V1, V2, V3 Lunghezza max. dei cavi (restrizione EMC) Sez. min. dei cavi	OUTLETS Control of fan V1, V2, V3 Maximum cable length (EMC restriction) Min. cable cross-sect.	SORTIES Comande du ventila- teur V1, V2, V3 Longueur max. des câbles (restriction EMC) Sect. min. des câbles	AUSGÄNGE Steuerung des Lüfters V1, V2, V3 Max. Kabellänge (EMC- Beschränkung) Min. Kabelquerschnitt	SALIDAS Mando del ventilador V1, V2, V3 Longitud máx. de los cables (restricción EMC) Sec. mín. de los cables	230V - 0.7 A <15m 1 mm²
Comando valvola Lunghezza max. dei cavi (restrizione EMC) Sez. min. dei cavi	Water valve control Maximum cable length (EMC restriction) Min. cable cross-sect.	Comande de la vanne Longueur max. des câbles (restriction EMC) Sect. min. des câbles	Ventilansteuerung Max. Kabellänge (EMC- Beschränkung) Min. Kabelquerschnitt	Mando válvula Longitud máx. de los cables (restricción EMC) Sec. mín. de los cables	<15m 1 mm²
ENTRATE Sonda acqua batteria SW, M Tensione Lunghezza max. dei cavi (restrizione EMC) Sez. min. dei cavi	INPUTS Coil water sensor SW, M Voltage Maximum cable length (EMC restriction) Min. cable cross-sect.	ENTREES Sonde eau batterie SW, M Tension Longueur max. des câbles (restriction EMC) Sect. min. des câbles	EINGÄNGE Wassersonde des Austauschers SW, M Spannung Max. Kabellänge (EMC- Beschränkung) Min. Kabelquerschnitt	ENTRADAS Sonda agua batería SW, M Tensión Longitud máx. de los cables (restricción EMC) Sec. mín. de los cables	230V <15m 0.5 mm²
Contatto remoto EX, M Tensione sul contatto Lunghezza max. dei cavi (restrizione EMC) Sez. min. dei cavi	Remote contact EX, M Voltage on contact Maximum cable length (EMC restriction) Min. cable cross-sect.	Contact à distance EX, M Tension sur le contact Longueur max. des câbles (restriction EMC) Sect. min. des câbles	Fernsteuerekontakt EX, M Spannung am Kontakt Max. Kabellänge (EMC- Beschränkung) Min. Kabelquerschnitt	Contacto remoto EX, M Tensión en el contacto Longitud máx. de los cables (restricción EMC) Sec. mín. de los cables	230V <100m 0.5 mm² I
Classe di isolamento Grado di protezione custodia	Class of insulation Degree of case protection	Classe d'isolation Degré de protection boîtier	Isolierstoffklasse Schutzgrad des Gehäuses	Clase de aislamiento Grado de protección cubierta	IP20
C O N D I Z I O N I AMBIENTALI Funzionamento	ENVIRONMENTAL CONDITIONS Operation	C O N D I T I O N S ENVIRONNEMENTALES Fonctionnement	UMGEBUNGS- BEDINGUNGEN Betrieb	C O N D I C I O N E S AMBIENTALES Funcionamiento	Classe 3K5 secondo IEC 721 3K5 classification in conformity with IEC 721 Classe 3K5 selon IEC 721 Klasse 3K5 nach IEC 721
Temperatura Umidità	Temperature Humidity	Température Humidité	Temperatur Feuchtigkeit	Temperatura Humedad	0° ÷ +50°C <85% u.r.
Trasporto Temperatura Umidità	Transport Temperature Humidity	Transport Température Humidité	Transporte Temperatur Feuchtigkeit	Transporte Temperatura Humedad	IEC 730-1 -10° ÷ +60°C <95% u.r.
Grado di inquinamento Installazione a parete Installazione a bordo macchina	Degree of pollution W a l l - m o u n t e d installation Installation on machine	Degré de pollution Installation murale Installation sur la machine	Verschmutzungsgrad Wandmontage Installation im Gerät	Grado de contaminación Instalación de pared Instalación a bordo máquina	3 2
N O R M A T I V E CONFORMITA' CE Direttiva compatibilità elettromagnetica Immunità Emissione	EC CONFORMITY STANDARDS Electromagnetic com- patibility directive Immunity Emission	N O R M A T I V E S CONFORMITE CE Directive compatibilité électromagnétique Immunité Emission	BESTIMMUNGEN ZUR CE-KONFORMITÄT EMV-Richtlinie Verträglichkeit Immunität Emission	NORMATIVAS CON- FORMIDAD CE Directiva compatibilidad electromagnética Inmunidad Emisión	CEE/89/336 EN61000-4-1 EN55011 EN55014 EN55022
Direttiva bassa tensione Apparecchi di regola- zione per uso civile Norme particolari per i dispositivi di comando termosensibili Sicurezza degli appa- recchi d'uso domestico e similare	Low voltage directive Adjustment equipment for civil usage Particular standards for heat sensitive control devices Safety of equipment for domestic and similar equipment	Directive basse tension Appareils de réglage pour emploi civil Exigences particulières pour dispositifs de commande thermosensibles Sécurité des appareils pour usage domestique et similaire	Richtlinie zur Niederspannung Regelvorrichtungen für den zivilen Einsatz Sonderbestimmungen für temperaturempfindliche Steuervorrichtungen Sicherheit von Haushaltsgeräten und ähnlichen	Directiva baja tensión Aparatos de regulación para uso civil Normas especiales para los dispositivos de mando termosensibles Seguridad de los aparatos de uso doméstico y similar	CEE/73/23 EN 60730-1 EN 60730-2-9 EN 60335-1 EN 60335-2-40
COLORE	COLOUR	COULEUR	FÄRBUNG	COLORACIÓN	RAL 9010

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