K20002EN ed.3

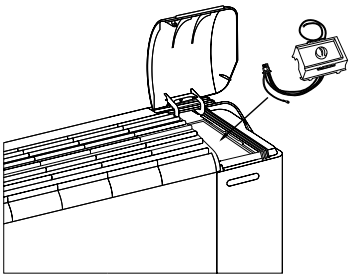
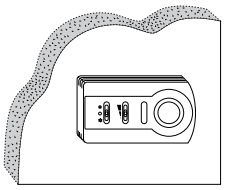
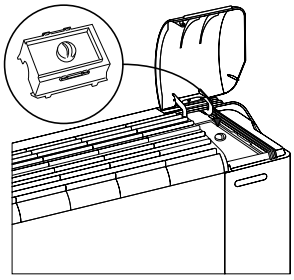
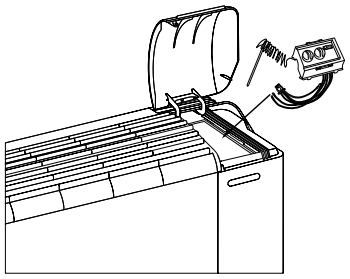
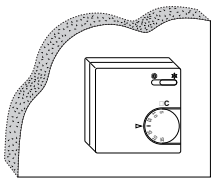
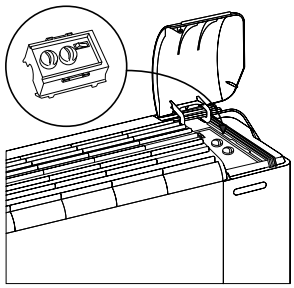
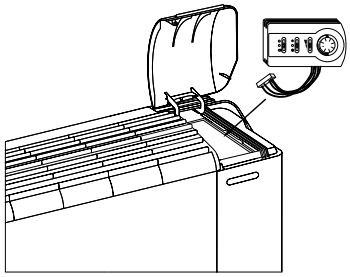
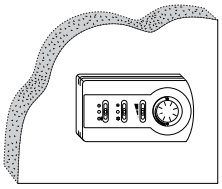
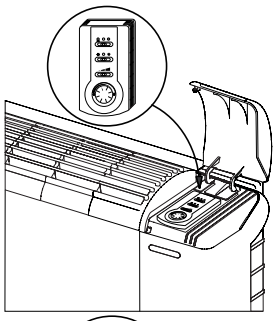
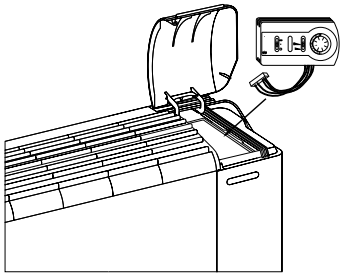
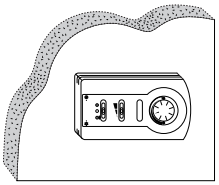
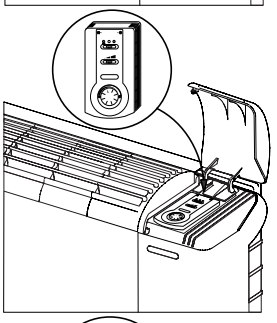
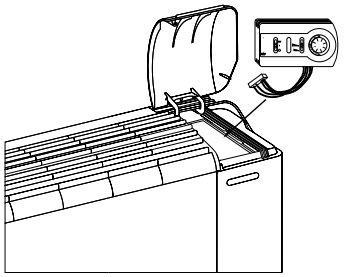
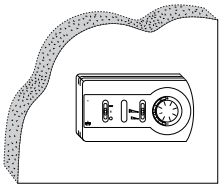
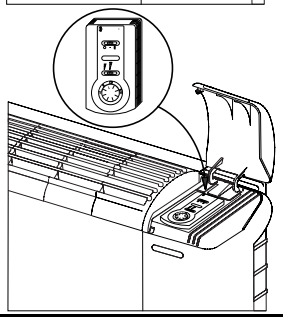
CONTROLS

Controls for fan coils and terminal units:
BrioEV - Brio-I - YardyEV - Yardy-I - YardyID - UTNC-EV - UTNC-I - UTNA - UTNB - UTNV - UTNR

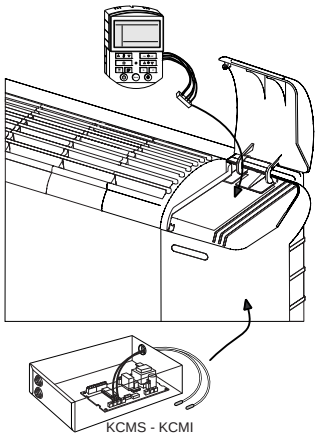
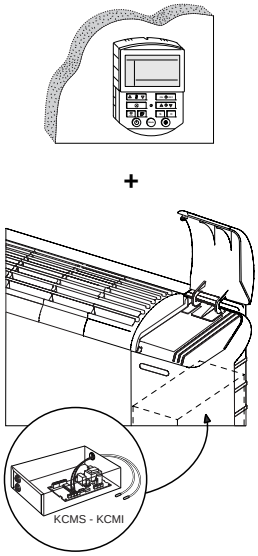
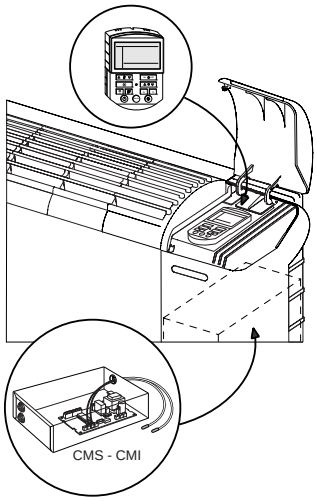
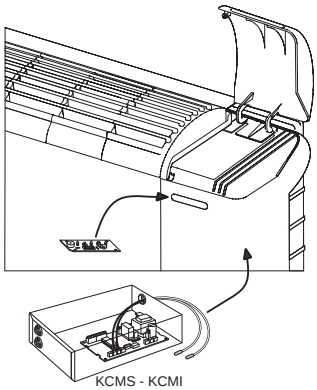
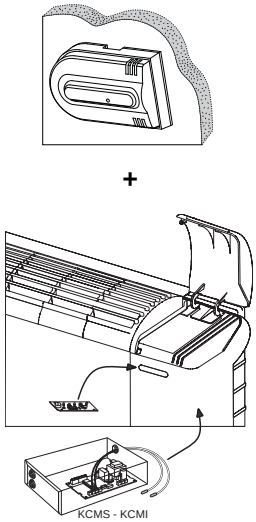
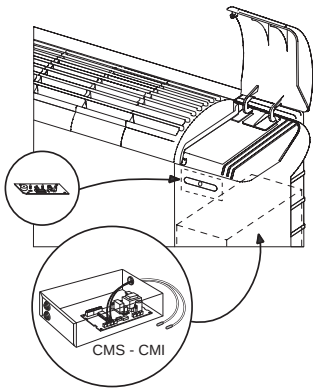
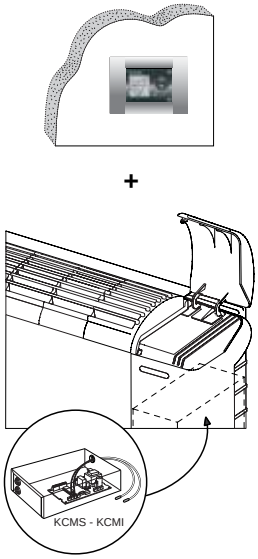
iDRHOSS system compatible

Contents

Standard controls

Supplied loose				Factory fitted	
For installation on machine		For wall mounting		On board machine	
KC		**KCV2**		**C**	
KTA		**KTIE1**		**TA** **TATM**	
KBTCV2		**KTCV2**		**TCV2**	
KBTCVA		**KTCVA**		**TCVA**	
KBTCVR		**KTCVR**		**TCVR**	

Advanced controls

		Supplied loose		Factory fitted
		For installation on machine	For wall mounting	On board machine
Panel		**KCMS/PCM KCMI/PCM** 	**KCMS + KPCM KCMI + KPCM** 	**CMSPCM CMIPCM** 
Remote control (*)		**KCMS + KRI KCMI + KRI** 	**KCMS + KRIP KCMI + KRIP** 	**CMSRI CMIRI** 
Recessed panel			**KCMS + KICM KCMI + KICM** 	

(*) Only available for BrioEV, Brio-I and UTNC-EV, including the bracket for wall installation.
For UTNC-EV and UTNC-I the RI receiver is already integrated in the unit.

Functions of standard controls

Functions												Controls	Installation	Availability	Unit
ON/OFF 3-speed switch	Room thermostat	Minimum temperature thermostat	Summer/winter switch	ON/OFF valves control	Electrical resistance control	Continuous/thermostat-controlled ventilation	2-pipe systems	4-pipe systems	Humidifier control	Duct air probe with remote control option	Controls up to 5 fan coil units				
◆												KC	B	K	BrioEV YardyEV
												C	B	F	BrioEV YardyEV
◆	◆	(KTM acc.)	◆									KTA	B	K	BrioEV YardyEV
		◆										TA TATM		F	BrioEV YardyEV
◆		(KTM acc.)	◆									KCV2	P	K	BrioEV YardyEV YardyDUCT YardyHP UTNC-EV UTNB UTNA-UTNR
	◆		◆									KTIE1	P	K	YardyDUCT BrioEV YardyEV
◆	◆	(KTM acc.)	◆	◆	◆	◆	◆	◆				KTCV2	P	K	BrioEV YardyEV YardyDUCT YardyHP UTNC-EV UTNB UTNA-UTNV-UTNR
		(KTM acc.)										KBTCV2	B	K	BrioEV YardyEV
		◆ (no TCV2)										TCV2 TCV2TM		F	BrioEV YardyEV
◆	◆	◆	◆ (AUTO)	◆		◆	◆					KTCVA	P	K	BrioEV YardyEV YardyDUCT YardyHP UTNC-EV UTNB UTNA
												KBTCVA	B	K	BrioEV YardyEV
												TCVA		F	BrioEV YardyEV
◆ (AUTO/MIN)	◆ (±5°C)	◆	◆ (AUTO)	◆	◆		◆	◆				KTCVR	P	K	BrioEV YardyEV YardyDUCT YardyHP UTNC-EV UTNB UTNA
												KBTCVR	B	K	BrioEV YardyEV
												TCVR		F	BrioEV YardyEV
		◆										KTM	B	K	BrioEV YardyEV YardyDUCT
									◆			KPAU	P	K	UTNB UTNA
										◆		KSO	C		YardyEV YardyDUCT YardyHP UTNC-EV UTNB UTNA
											◆	INT	B	K	BrioEV YardyEV YardyDUCT YardyHP UTNC-EV UTNB UTNA

Key: **F** = Factory fitted **K** = Supplied loose **T** = All the versions **B** = On board machine **P** = Wall **C** = Channel

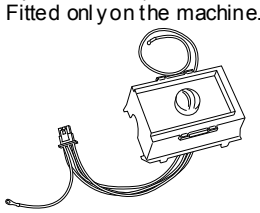
Fan coils and terminal units

BrioEV	YardyEV YardyDUCT – YardyHP	UTNC-EV	UTNB	UTNA	UTNV	UTNR
						

Features of standard controls

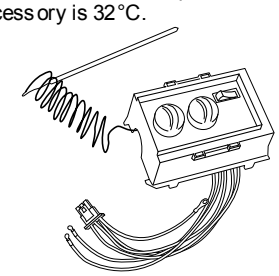
- **KC (supplied separately)**
- **C (factoryfitted)**

OFF/1/2/3 speed switch (for MVP and MVT versions). Fitted only on the machine.



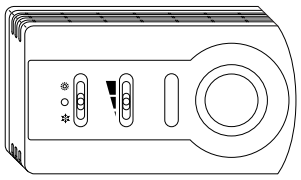
- **KTA (supplied separately)**
- **TA (factoryfitted)**
- **TATM (factoryfitted)**

Room thermostat complete with OFF/1/2/3 speed and SUMMER/WINTER switch (for MVP and MVT versions) with the option of connecting the minimum thermostat externally. Fitted only on the machine. The TATM version is supplied complete with the minimum thermostat. The minimum thermostat calibration temperature allowed in the accessory is 32°C.



- **KCV2 (supplied separately)**

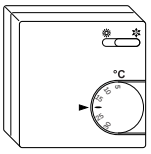
Panel with 3-speed switch complete with the summer/off/winter switch with the option of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x40 mm)

- **KTIE1 (supplied separately)**

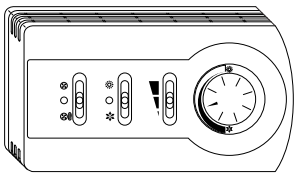
Panel with room thermostat complete with the summer/winter switch.



(Dimensions 75 x75 x 25.5 mm)

- **KTCV2-KBTCV2 (supplied separately)**
- **TCV2-TCV2TM (factoryfitted)**

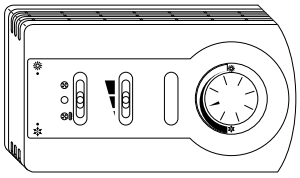
Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electrical resistance or 4-pipe systems, with the option of connecting the minimum thermostat externally.
Fitted on the machine (KBTCV2) or wall mounted (KTCV2).
The TCV2TM control is supplied complete with the minimum thermostat.



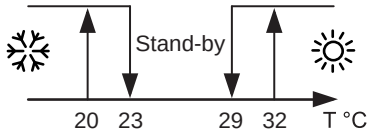
(Dimensions 145 x 82 x40 mm)

- **KTCVA-KBTCVA (supplied separately)**
- **TCVA (factoryfitted)**

Electronic control panel including: continuous/off/thermostat ventilation switch; 3-speed switch; room thermostat; automatic summer/winter switch; heating/cooling red/green LED; auxiliary contact (230 Vac) to control the ON/OFF valve in 2-pipe systems.
Fitted on the machine (KBTCVA) or wall mounted (KTCVA).



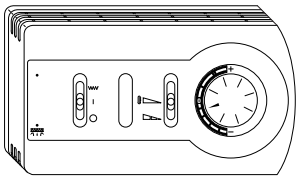
(Dimensions 145 x 82 x40 mm)
The heating and cooling switchover occurs automatically via detection of the water temperature in the fan coil upstream the valve according to the following logic.



T = water temperature

- **KTCVR-KBTCVR (supplied separately)**
- **TCVR (factoryfitted)**

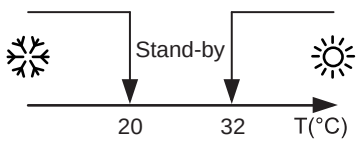
Electronic control panel including: on/off/electrical resistance switch; automatic summer/winter switch; automatic speed/minimum speed switch; ±5°C comfort adjustment knob; auxiliary contacts (230 Vac) to control the ON/OFF valve in 2-pipe systems, 2-pipe systems with electrical resistance or 4-pipe systems.
Minimum thermostat function, destratification cycle and dirty filter signal. Fitted on the machine (KBTCVR) or wall mounted (KTCVR).



(Dimensions 145 x 82 x40 mm)

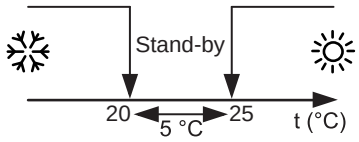
The heating and cooling switchover occurs automatically via detection of the water temperature in the fan coil upstream the valve according to the following logic. If the electric resistance is present, it can be activated.

2-pipe system



T = Water temperature.

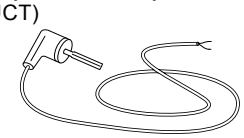
4-pipe system



t = Room temperature.

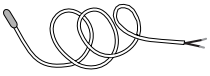
- **KTM (supplied separately)**

Minimum temperature thermostat for winter mode (only BrioEV, YardyEV and YardyDUCT)



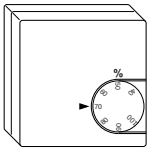
- **KSO (supplied separately)**

Air sensor with remote control option (2m) for KTCV2, KTCVA and KTCVR.



- **KPAU (supplied separately)**

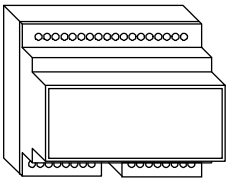
Panel with humidistat to control the humidifier available in the UTNB and UTNA units.



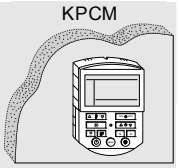
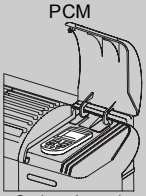
(Dimensions 75 x75 x 25.5 mm)

- **INT (supplied separately)**

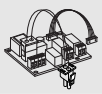
Interface card for controlling up to 4 fan coil units. Fitted on the machine.



Functions of standard/advanced controls

Interface		Electronic board				Unit	Functions				
Remote	On board	Type		Availability	Installation		Room adjustment	Comfort management	2-pipe systems	Master / Slave	Serial interface
KPCM  Wall-mounted panel	None	Master electronic board	KCMS	K	B	Fan coils and terminal units	◆	◆	◆	◆	◆
			CMS	F	B						
None	PCM  On board panel	Master electronic board	KCMS/ PCM	K	B	BrioEV	◆	◆	◆	◆	◆
						YardyEV					
			CMS/P CM	F	B	BrioEV					
						YardyEV					
KTCM  Remote Control	None	Receiver to be combined with the master electronic board when the remote control is present (***)	KRI (**)	K	B	BrioEV (**)	◆	◆	◆	◆	◆
			RI	F	B	BrioEV					
			KRIP	K	P	YardyEV-DUCT-HP UTNB UTNA	◆	◆	◆	◆	◆
		Master electronic board	KCMS	K	B	BrioEV - YardyEV UTNC UTNB UTNA UTNC-EV(*)					
			CMS	F	B	BrioEV - YardyEV					
KICM  Recessed panel	None	Master electronic board	KCMS	K	B	Fan coils and terminal units	◆	◆	◆	◆	◆
			CMS	F	B						
None	None	Slave electronic board	KCMS	K	B	Fan coils and terminal units	◆	◆	◆	◆	◆
			CMS	F	B						

(*) Mandatory use of the KPRI extension cable
(**) Mandatory use of the KPRI extension cable in case of hydraulic connections on the right side of the unit
(***) Already integrated in the UTNC-EV and UTNC-I units

Additional modules				Unit	Versions	Functions		
Type		Availability	Installation			4-pipe systems	ON/OFF valve control	Electrical resistance
	KSTI	K	B	Fan coils and terminal units	T	◆		
	STI	F	B					
	KMVR	K	B	Fan coils and terminal units	T		◆	◆
	MVR	F	B					

Key: **F** = Factory fitted **K** = Supplied loose **T** = All the versions **B** = On board machine **P** = Wall

Room adjustment:
FULL AUTO, COOL, DRY FAN, HEAT
Comfort management:
CLOCK, TIMER, SLEEP, HOT START, TOO COOL, MEMORY, ECONOMY, LOCK FUNCTION, ON/OFF REMOTE CONTROL, SUMMER/WINTER REMOTE CONTROL, SECURITY CONTROL, PROBE IN/OUT, CONTINUOUS VENTILATION, ALARM

Fan coils and terminal units

BrioEV	YardyEV YardyDUCT - YardyHP	UTNC-EV	UTNB	UTNA
				

Functions of brushless advanced controls

Table A: MASTER OR SLAVE BOARD AND CONTROL INTERFACE SELECTION

				ELECTRONIC BOARD FOR MANAGEMENT:						FUNCTIONS		
FAN COIL	CONTROL INTERFACE	MOTOR TYPE E FAN COIL RANGE		2-PIPE SYSTEMS	2-PIPE SYSTEMS - CONTROL ON/OFF VALVE - ELECTRICAL RESISTANCE	4-PIPE SYSTEMS - CONTROL ON/OFF VALVES - PROBE FOR HOT ROW	INDOOR INSTALLATION	SUPPLY	TYPE OF BOARD	ROOM ADJUSTMENT	COMFORT MANAGEMENT	BMS SYSTEMS CONNECTION
MASTER	**ON BOARD**											
	PCM  On board panel	**STD**	Brio-Yardy (*)	KCMS/PCM	KCMS/PCM+KMVR	KCMS/PCM+KMVR+KSTI	B	K	MASTER	✓	✓	✓
				CMS/PCM	CMS/PCM+MVR	CMS/PCM+MVR+STI	B	F				
		INV	Brio-Yardy (*)	KCMIPCM2		KCMIPCM4	B	K				
				CMIPCM2		CMIPCM4	B	F				
	WALL MOUNTED		(*) only vertical version with cabinet									
	KPCM  Wall-mounted panel	**STD**	Brio - Yardy UTNC - UTNB UTNA	KCMS	KCMS+KMVR	KCMS+KMVR+KSTI	B	K	MASTER	✓	✓	✓
			Brio - Yardy	CMS	CMS+MVR	CMS+MVR+STI	B	F				
	KICM  Recessed panel	**INV**	Brio - Yardy UTNC	KCMI2		KCMI4	B	K				
			Brio - Yardy	CMI2		CMI4	B	F				
	REMOTE											
	KTCM + RECEIVER  Remote Control+ Receiver	**STD**	Brio - Yardy UTNC - UTNB - UTNA	KCMS	KCMS+KMVR	KCMS+KMVR+KSTI	B	K	MASTER + RECEIVER TABLE B	✓	✓	✓
			Brio - Yardy	CMS	CMS+MVR	CMS+MVR+STI	B	F				
		INV	Brio - Yardy - UTNC	KCMI2		KCMI4	B	K				
			Brio - Yardy	CMI2		CMI4	B	F				
SLAVE	The slave fan coil does not have a control interface: it is controlled by the Master fan coil it is connected to	**STD**	Brio - Yardy UTNC - UTNB UTNA	KCMS	KCMS+KMVR	KCMS+KMVR+KSTI	B	K	SLAVE (up to 5 Slaves for every Master)	✓	✓	✓
			Brio - Yardy	CMS	CMS+MVR	CMS+MVR+STI	B	F				
		INV	Brio - Yardy - UTNC	KCMI2		KCMI4	B	K				
			Brio - Yardy	CMI2		CMI4	B	F				

Table B: RECEIVER SELECTION FOR REMOTE CONTROL

RECEIVER	RECEIVER	MOTOR TYPE E FAN COIL RANGE		RECEIVER BOARD	INDOOR INSTALLATION	SUPPLY
	KRI-RI  Receiver on board	**STD**	Brio	KRI (**)	On board	K
		INV		RI	On board	F
	KRIP  Wall mounted receiver	**STD**	Yardy – UTNB - UTNA	KRIP	Wall mounted	K
		INV	Yardy			
	Receiver already included as standard	**STD**	UTNC	KPRI (***)	On board	Standard
		INV				

KEY

F = Factory fitted
K = Supplied loose
B = On board machine
P = Wall
STD = fan coil with standard motor
INV = fan coil with inverter motor

LIST OF FUNCTIONS

ROOM ADJUSTMENT: FULL AUTO, COOL, DRY FAN, HEAT
COMFORT MANAGEMENT: CLOCK, TIMER, SLEEP, HOT START, TOO COOL, MEMORY, ECONOMY, LOCK FUNCTION, ON/OFF REMOTE CONTROL, SUMMER/WINTER REMOTE CONTROL, SECURITY CONTROL, PROBE IN/OUT, CONTINUOUS VENTILATION, ALARM

(**) - Mandatory use of the KPRI extension cable in case of hydraulic connections on the right side of the unit
KPRI (***) - Mandatory use of the KPRI extension cable

Fan coils and terminal units

BRIO	YARDY	UTNC	UTNB	UTNA
BrioEV – Brio-I	YardyEV – Yardy-I YardyDUCT - YardyHP	UTNC-EV – UTNC-I	UTNB	UTNA
				

Advanced controls

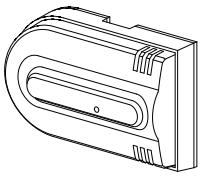
- **KTCM (supplied separately)**

Infrared remote control with LCD display to manually or automatically adjust all the functions of the appliance according to the preset temperature. The remote control comes complete with the support bracket to be wall mounted.

(Dimensions 50 x130 x30 mm)

- **KRIP (supplied separately)**

KTCM remote control receiver to be combined with the CMS-KCMS electronic board and be wall mounted.

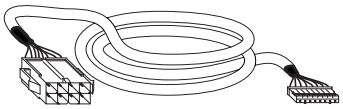


- **KRI (supplied separately)**
- **RI (factory fitted)**

Infrared receiver board for the KTCM remote control.

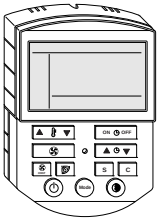
- **KPRI (supplied separately)**

Extension cable to connect the infrared receiver board (KRI) in case of hydraulic connections on the right side of the unit - it is mandatory for BrioEV and Brio-I; for UTNC-EV and UTNC-I when the KTCM remote control is present.



- **KPCM (supplied separately)**

Electronic wired control panel with LCD display and 11 keys to manually or automatically adjust all the functions of the appliance according to the preset temperature. The panel is designed to be wall mounted.



(Dimensions 70 x101 x20 mm)

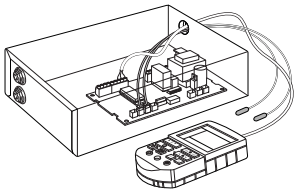
- **KICM (supplied separately)**

Recessed panel with an LCD display, set-up to be installed in 3-module recessed wall-mounted boxes, to manually or automatically adjust all the functions of the appliance according to the preset temperature, combined with the KCMS - KCMI electronic board.

(Dimensions 65.2 x 44.4 x 27.3 mm)

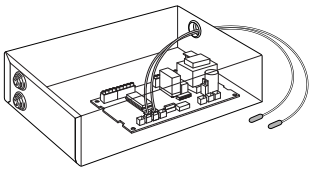
- **KCMS/PCM (supplied separately)**
- **CMS/PCM (factory fitted)**

MASTER electronic board to manually or automatically adjust all the functions of the appliance, complete with a container for the possibly additional KMVR module and wired electronic control panel to be installed on the machine (MVP and MVT versions).



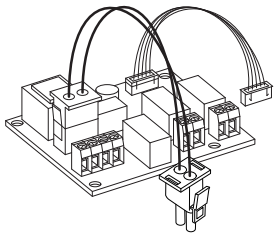
- **KCMS (supplied separately)**
- **CMS (factory fitted)**

Electronic board that can be configured as MASTER or SLAVE for manual or automatic adjustment of all appliance functions, complete with a container for any additional KMVR module.



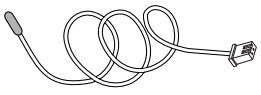
- **KMVR (supplied separately)**
- **MVR (factory fitted)**

Module to control the ON/OFF valves in 2 or 4-pipe systems and control of the electrical resistance, to be associated with the KCMS, KCMS/PCM, CMS and CMS/PCM electronic board. It has two auxiliary contacts: summer/winter consent and boiler control.



- **KSTI (supplied separately)**
- **STI (factory fitted)**

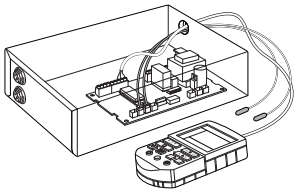
Water heating additional coil temperature probe to be associated with the KCMS, KCMS/PCM, CMS and CMS/PCM electronic board.



- **KCMI (supplied separately)**

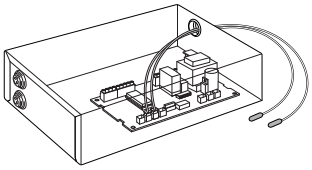
KCMIPCM2 - Master electronic board for 2-PIPE SYSTEMS with on board electronic control panel to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the electrical resistance. Versions with vertical installation cabinet.

KCMIPCM4 - Master electronic board for 4-PIPE SYSTEMS with on board electronic control panel to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the additional coil temperature probe. Versions with vertical installation cabinet.



KCMI2 - Master/Slave electronic board for 2-PIPE SYSTEMS to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the electrical resistance.

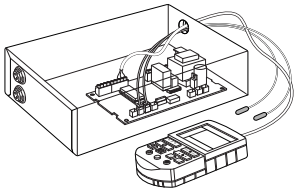
KCMI4 - Master/Slave electronic board for 4-PIPE SYSTEMS to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the additional coil temperature probe.



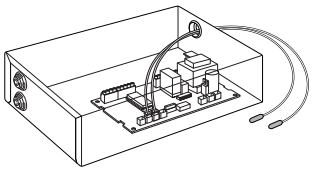
Factory fitted controls

CMIPCM2 - Master electronic board for 2-PIPE SYSTEMS with on board electronic control panel to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the electrical resistance (for MVP and MVT versions).

CMIPCM4 - Master electronic board for 4-PIPE SYSTEMS with on board electronic control panel to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the coil temperature probe (for MVP and MVT versions).



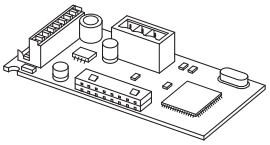
CMI2 - Master/Slave electronic board for 2-PIPE SYSTEMS to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the electrical resistance.
CMI4 - Master/Slave electronic board for 4-PIPE SYSTEMS to manually or automatically adjust all the functions of the appliance, complete with an additional board for control of the fan (0-10Vdc), the ON/OFF valve and the additional coil temperature probe.



Serial interfaces (for advanced controls)

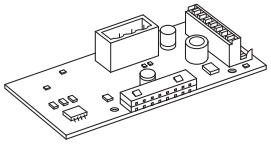
- **KISI (supplied separately)**

CAN-bus serial interface (Controller Area Network) for IDRHOSS system, necessary for the mains connection of the units and their serial addressing, to be associated with the KCMS, KCMS/PCM, CMS, CMS/PCM (Can-Open Protocol), KCMI and KCMI/PCM electronic board.



- **KRS485 (supplied separately)**

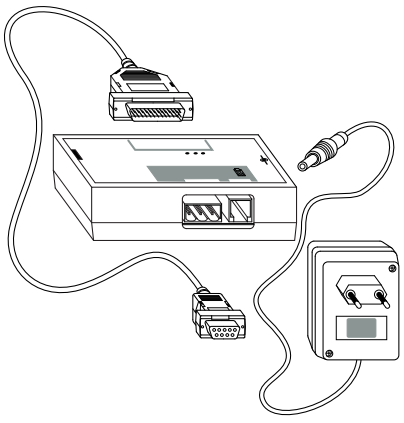
RS485 serial interface for logic dialogue with building automation and supervision systems, to be associated with the KCMS, KCMS/PCM, CMS and CMS/PCM electronic board (Supported protocols: proprietary protocol; ModBuS® RTU), KCMI, KCMI/PCM.



Serial converters (supplied separately)

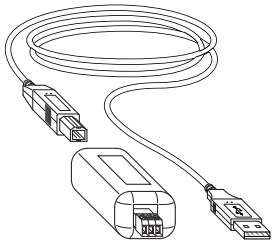
- **KRS232 (supplied separately)**

RS485/RS232 Serial converter to connect to supervisory systems, to be associated to one or more KRS485 serial interface modules in the case of centralised unit management.



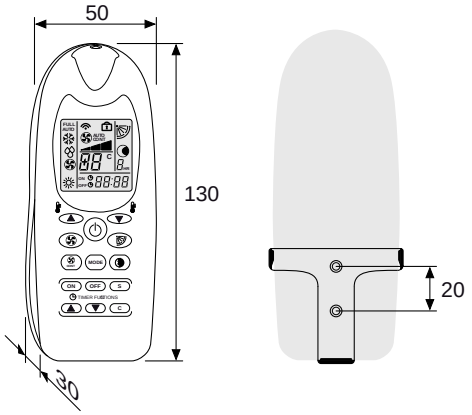
- **KUSB (supplied separately)**

RS485/USB Serial converter to connect to supervisory systems, to be associated to one or more KRS485 serial interface modules in the case of centralised unit management.

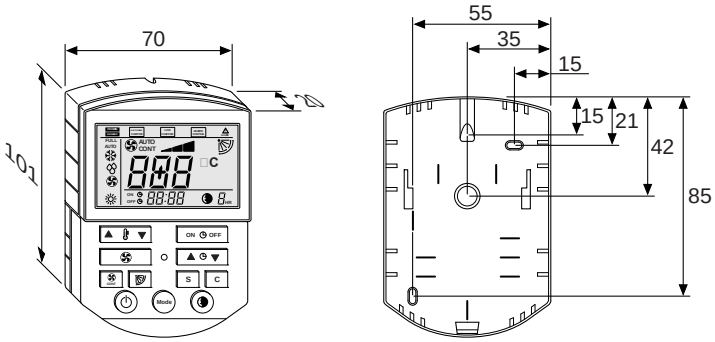


Commands and controls

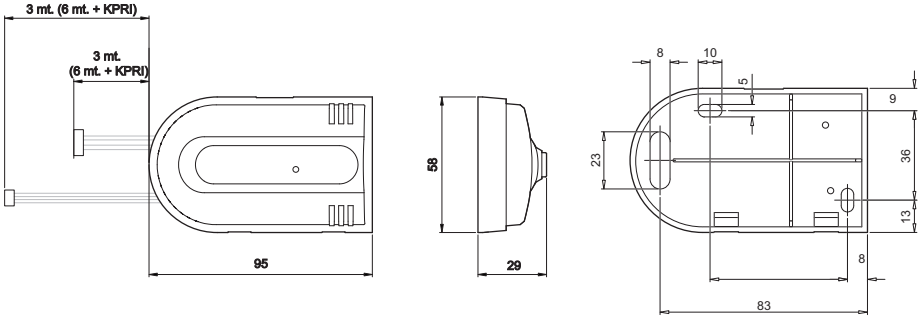
Infrared remote control (KTCM)



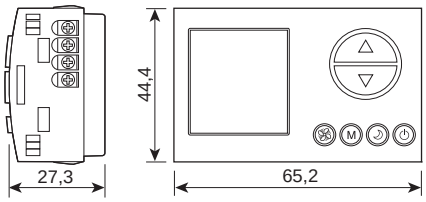
Wired LCD panel (KPCM)



Wall-mounted receiver (KRIP)



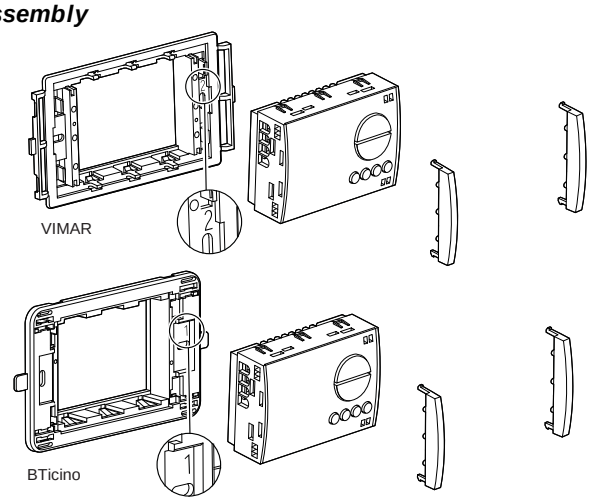
Recessed panel (KICM)

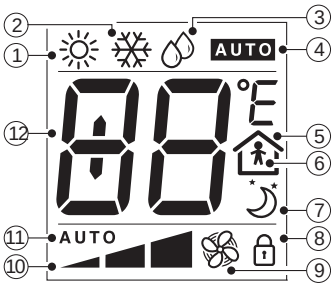


Recessed panel for the CMS fan coil to be controlled electronically and the possibly connected **iDRHOSSLan** local network to be controlled. It also contains an NTC probe for measuring the room temperature used by the Fan Coil/s to cool the area.
Can be installed in recessed wall-mounted boxes and 3-module plates:

BTicino	Living International; Light; Light Tech; Matrix
VIMAR	Idea; Idea Rondò; Plana

Assembly





Description of the symbol displayed on the LCD

Ref.	meaning
1	Heating
2	Cooling
3	Dehumidification
4	Automatic mode
5	Occupancy function = enabled
6	Constantly on = occupied Flashing on = temporarily occupied
7	Sleep function
8	Limited keyboard function
9	Fan and operating mode
10	Set fan speed (min/med/max)
11	Automatic fan speed
12	Displayed temperature probe, set-point or active alarm code

Description of the keys

Key	Meaning
	Fan coil on/off. The key function could be disabled in the presence of the digital remote ON/OFF input or the hydronics system.
MODE	Allows the desired mode to be selected: Summer (cooling), Winter (heating), Dehumidification, Fan (ventilation), automatic mode. The key function could be disabled in the presence of the digital remote summer/winter input or the hydronics system.
	The fan rotation speed (min/med/max) can be set by pressing it several times.
	**Sleep**: press once to activate the sleep function; press again to select the number of hours the sleep function is to last. **Occupancy function**: this function is activated by pressing it once or waiting for the sensor (if installed) to detect the presence.

Notes:

- Refer to the CMS - CMI user manual for details regarding operation.
- If the padlock symbol appears, the keys are disabled, except for certain limited functions for the user.

Room adjustment

- **Full Auto** FULL AUTO

In FULL AUTO mode, the terminal unit detects the room temperature and decides which mode to activate (heating or cooling) based on the user-set set-point. Do not use the Full Auto mode in 2-pipe systems in the presence of the valve.

- **Cool**

Cool is the "cooling" function. The desired adjustment can be set by selecting the work set-point. The fan operating mode can be manual or automatic (AUTO).

- **Dry**

Dry is the "dehumidification" function, i.e. that which reduces humidity in the environment. In this operating mode, the fan of the unit turns at minimum speed, whereas the water cut-off On/Off valve is controlled according to preset cycles. The desired adjustment can be set by selecting the work set-point.

- **Fan**

Fan is the " ventilation" function. The fan speed (MIN, MED, MAX or AUTO) can be set as desired.

- **Heat**

Heat is the " heating" function. The desired adjustment can be set by selecting the work set-point. The fan operating mode can be manual or automatic (AUTO).

- **Heat + Resistance** +

The HEAT + ELECTRICAL RESISTANCE function involves the HEAT operating mode with automatic activation of the electrical resistance (if declared present) according to the detected hot water temperature; it can therefore supplement or replace the hot water coil.

- **Full Auto + Resistance** FULL AUTO +

The HEAT + ELECTRICAL RESISTANCE function involves the HEAT operating mode with automatic activation of the electrical resistance (if declared present) according to the detected hot water temperature; it can therefore supplement or replace the hot water coil.

Comfort management

- **Clock**

The panel displays the time set by the user.

- **Timer**

Allows the machine on and off time to be set. The TIMER function is cyclically repeated every 24 hours unless it is disabled.

- **Sleep**

Sleep is the "night-time air conditioning" function. In this operating mode, the unit noise and LED brightness are minimised whereas the work set-points are optimised. The function can be activated for a minimum of 1 hour up to a maximum of 9.

- **Hot Start**

In the HEAT operating mode, it involves blocking the ventilation when the temperature of the hot water coil inlet drops below certain preset values and related to the fan speed, thereby avoiding unpleasant flows of cold air into the room.

- **Too Cool**

In the COOL and DRY operating modes, it involves blocking the ventilation when the temperature of the cold water coil inlet exceeds a certain preset value, thereby avoiding unpleasant flows of hot air into the room.

- **Memory**

If the power supply is restored after a black-out, the unit will continue to run in the mode it was running in when the power cut occurred. MEMORY is also activated in the ON/OFF remote control and SECURITY control functions.

Advanced functions

- **Economy**

Economy is the "energy savings" function. In this operating mode, the unit noise is minimised and the work set-point values are optimised in order to obtain energy savings; example, it can be activated when the room is not being used. This function can be enabled from the relative DIP Switch on the board and activated from the potential-free contact.

- **Lock function** LOCK FUNCTION /

Allows appliance linked management if application control is centralised (linked air conditioning).
In fact, it involves only the FULL AUTO mode (or possibly EIR, if enabled).
The other possible functions are:

- switch the unit on and off;
- change the Set-point by ±3°C (only if the Comfort Control function is enabled);
- change the fan speed (min-med-max-AUTO);
- enable the CONT function;

If the EIR function is active, the operating mode depends on the status of the digital input.
LOCK FUNCTION appears on the control panel.
This function is enabled from the relative DIP Switch on the board.

- **KPCM panel and KTCM remote control keylock**

The functions associated with the KPCM panel keys can be locked via a parameter, and therefore customise the operation of the panel itself and lock certain buttons, if necessary.
Press the CANC key for 5 seconds to block the keypad of the KTCM remote control.

- **ON/OFF remote control (SCR)**

Involves the unit being remotely switched on and off via a switch (potential free contact) for the unit to be used with centralised control or timed control with an external clock. When the unit is switched OFF using the remote control, REMOTE CONTROL appears on the control panel and every setting from the remote control or control panel is disabled.

- **Summer/Winter remote control (EIR)**

Allows the unit to be remotely set to COOL or HEAT mode via a switch (potential free contact). This function can be enabled from the relative DIP Switch on the board.

- **Security control (SIC)**

It is possible to set unit operation under the control of remote consent (potential-free contact). For example, unit operation can be interrupted when a window is opened via a contact on it.
This function is enabled from the relative DIP Switch on the board.

- **Probe IN/OUT** PROBE IN PROBE OUT

The room temperature can be detected via the probe inside the control panel (PROBE IN) or that fixed on the unit (PROBE OUT). The choice can be made by pressing the concealed-access button at the centre of the control panel with a sharp object. The display will show the selected probe. Note: in the case of a KICM recessed terminal, the selection must be made via dip-switch 6 (on the CMS board).

- **Continuous ventilation**

In this operating mode, once the temperature set-point is reached, ventilation is forced at the set speed, thereby preventing air stratification problems in the room. However, the desired speed can be selected manually (MIN/MED/MAX) (available on the keyboard for KPCM and KTCM).
This function is only active if the valve and the relative MVR control module is declared present (available if activated from the relative parameter for KICM) (*).

- **Comfort Control (*)**

This function (which can be activated by setting the P36=1 parameter) blocks the set-point modification and allows a +/- 3°C value to be set with respect to the set set-point (in the HEAT, COLD, DRY and AUTOMATIC modes). Example: in a centralised system (Hotel), a room set-point can be set via a serial port, allowing the customer to modify it by only +/- 3°C.

- **Occupancy (only for KICM) (*)**

3 different operating modes can be set in the presence of supervisory software:

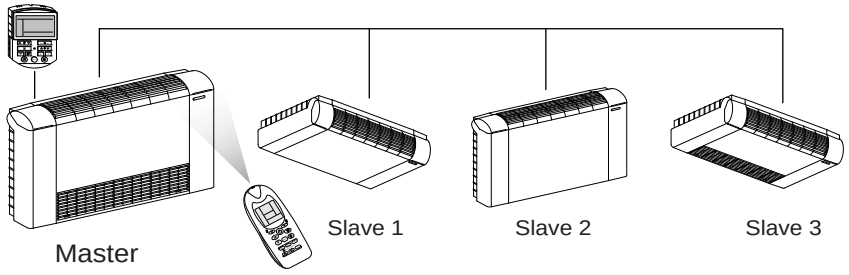
- unallocated room = OFF
- occupied room = Comfort mode
- allocated and not occupied room = Stand-by/Economy mode

- **Alarm** A00

If an alarm has been triggered that prevents the machine from running correctly, the display will show the alarm code, thereby allowing the fault to be easily identified.
(*) Attention: a KPCM panel is all that is required to set and modify the parameters in the electronic board.

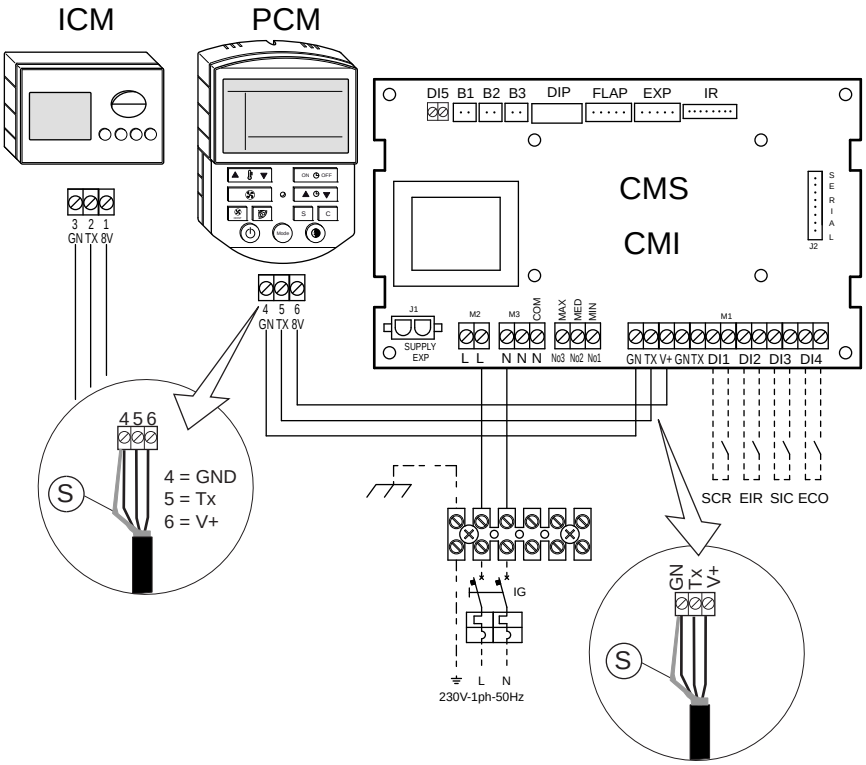
- **MASTER/SLAVE connection**

This is a particular function, therefore a declared Master unit (with control panel) sends certain information regarding current operation to other declared Slave units (max. 5) (with no control panel) via an electrical connection that is to be implemented during the installation.
All the units are adjusted from the control panel of the Master unit in two different ways:
- if the control panel displays Probe Out and Full Auto mode or Manual mode is set, every Slave appliance is adjusted via its room air sensor;
- if the control panel displays Probe In and Full Auto mode or Manual mode is set, every Slave appliance is adjusted via the room air sensor inside the control panel (the Slaves repeat the Master operation).



Nota Bene:
With reference to the above mentioned example: the distance from the local network (distance between the Master and the last Slave) and the distance between the Master unit and the control panel can be no more than 30 m.

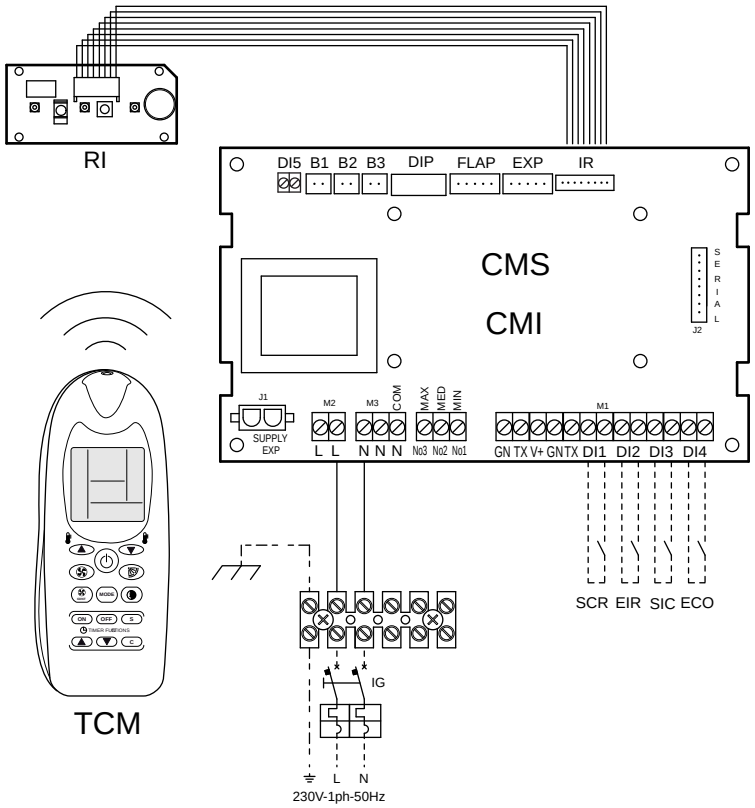
KCMS/PCM – KCMS + KPCM connection layout



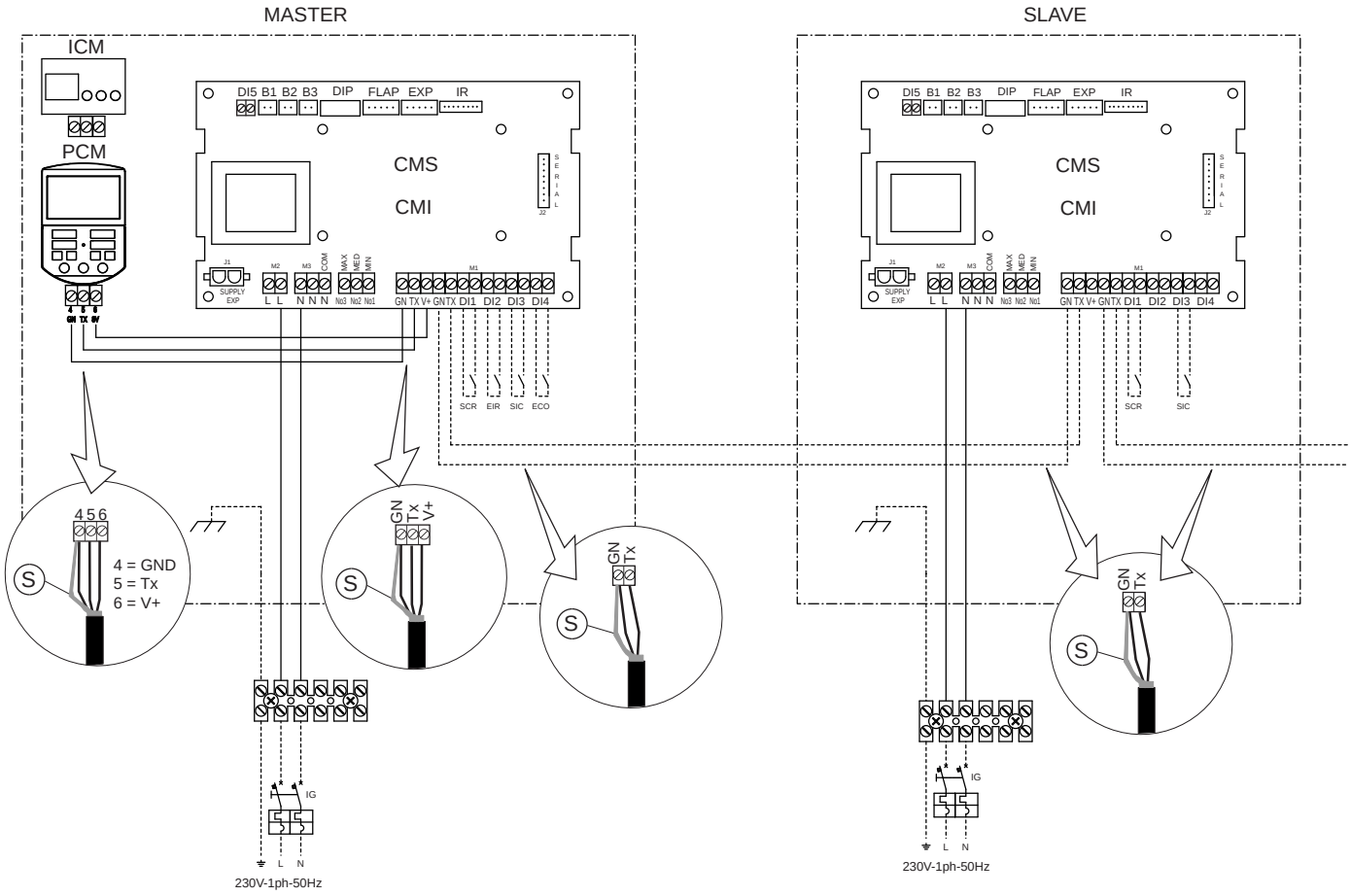
S = Shield of the shielded cable

CMS/CMI	Electronic control
PCM	Control panel
TCM	Remote control
RI	Receiver board
IG	Master Switch
SCR	Remote control selector
SIC	Outdoor safety
EIR	Remote summer/winter selector
ECO	Economy function selector
R	Resistance (120 Ohm)
- - - -	The connection is to be set up by the installer

KCMS + KRI + KTCM connection layout

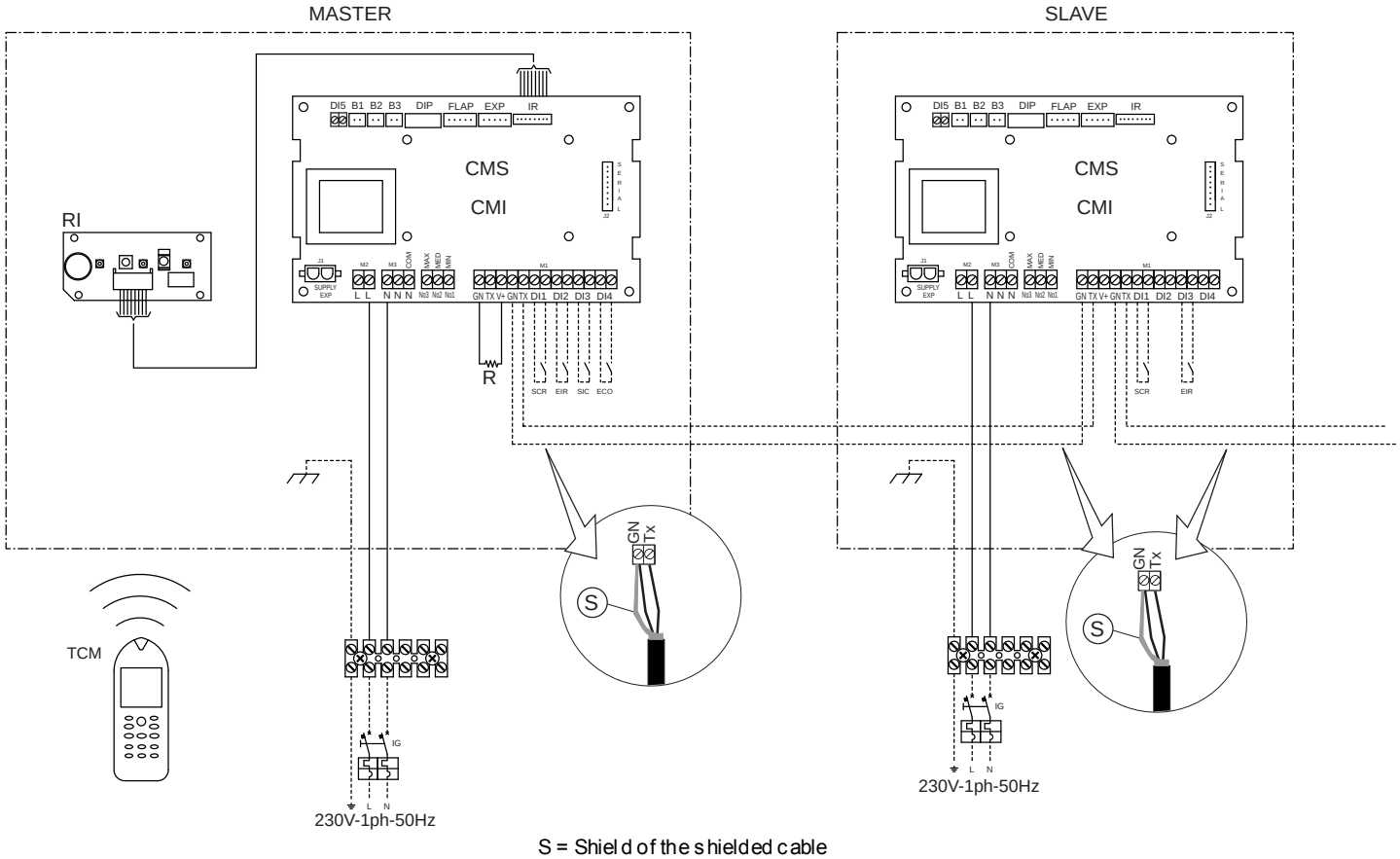


MASTER/SLAVE with control panel connection layout



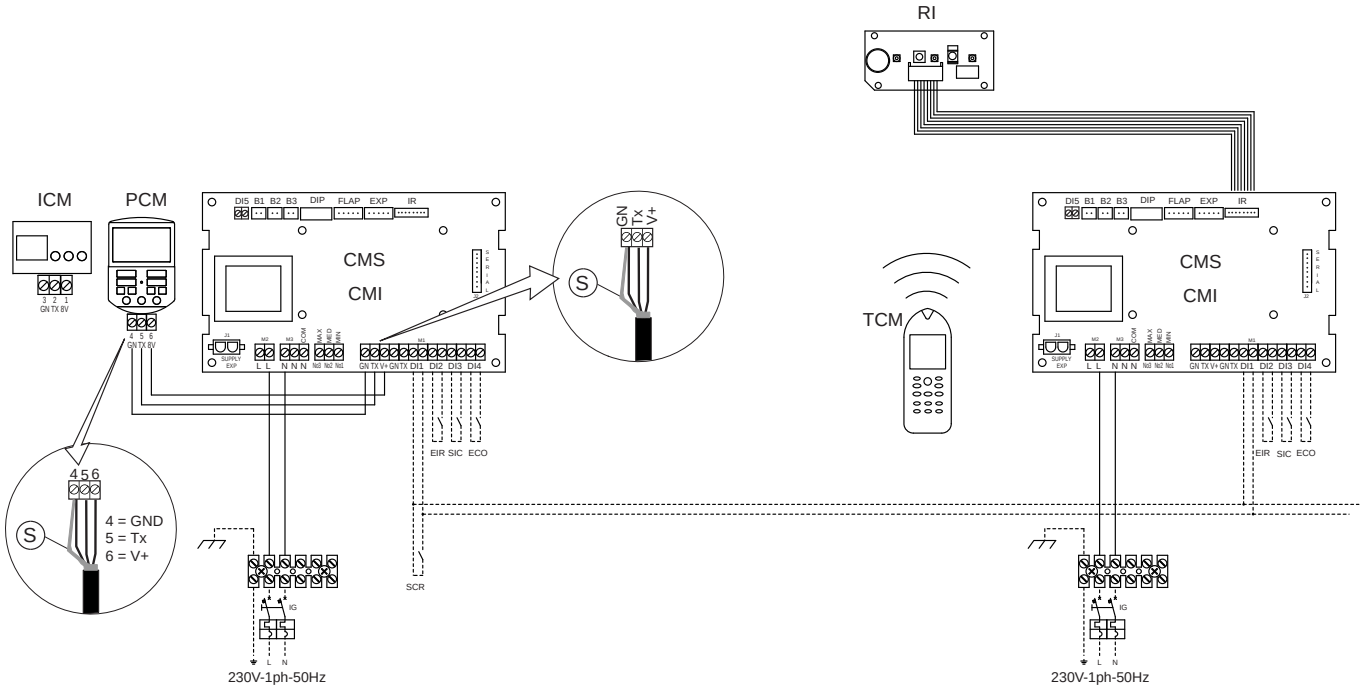
S = Shield of the shielded cable

MASTER/SLAVE with remote control connection layout



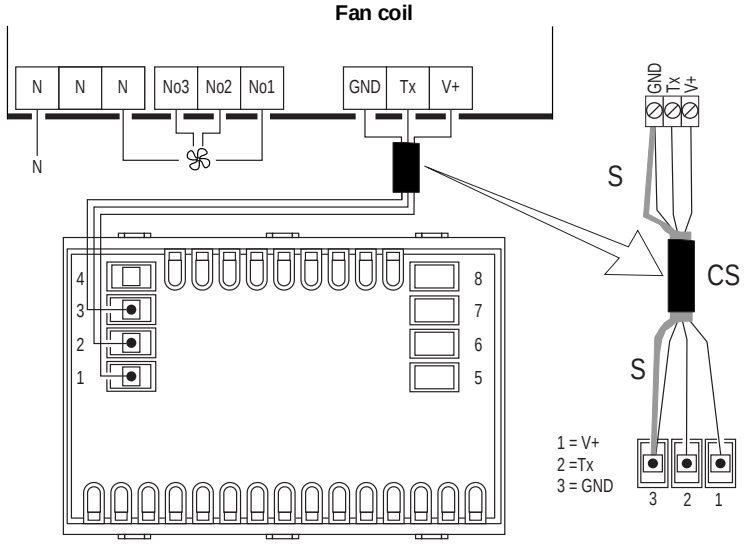
S = Shield of the shielded cable

Centralised digital inputs connection layout



Note: same type of connection for SIC, EIR and ECO

KICM connection layout



CS = Shielded cable (3 wires + shield)
S = Shield of the shielded cable

Specifications of standard controls

	KC C	TA KTA TATM	KCV2	KTIE1	KTCV2KBT CV2 TCV2TM	KTCVA KBTCVA TCVA	KTCVR KBTCVR TCVR	KTCVM
Power supply	230 Vca ±10% - 50/60 Hz							24Vac/cc ±10% 50/60Hz
Protection rating	/		IP30					
CE Standards	EN60730-1		EN50081-1 / EN50082-1 / EN60730-1					
Adjustment field	/	+5°C ÷ +30°C					+15°C ÷ +25°C Heating +20°C ÷ +30°C Cooling	+5°C ÷ +30°C
Outputs	/	/	/	/	1 SPDT relay 230Vac 6A	1 SPDT relay 230Vac 6A	5 triac 230Vac	2 proportional 0-10 Vdc
Total maximum load	3 (0.5) A Frend 16(3) A BrioEV and YardyEV	15(2.5) A thermostat	6A AC1	10(4) A heating 5(2) A cooling	6A AC1	6A AC1	1.2 A (35□) motor outputs 0.5 A valve output or resistance relay	6A AC1
Operating range	0°C ÷ +50 °C RH 10÷90%							
Colour	/	/	RAL 9010					

Specifications of advanced controls

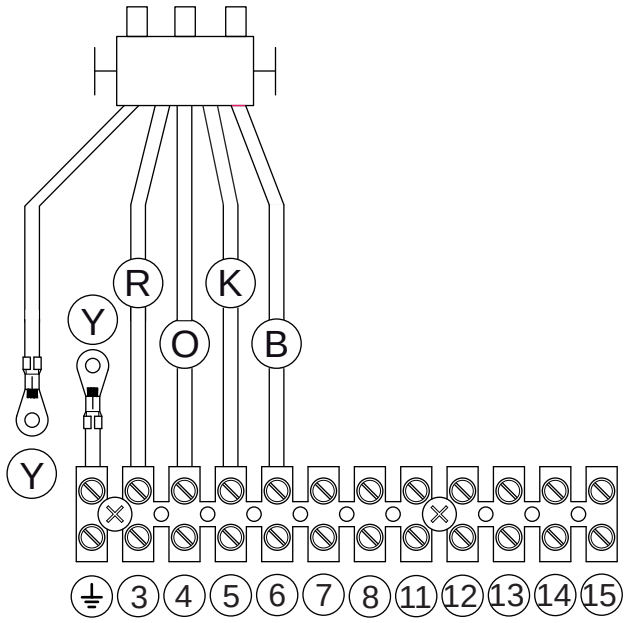
IDRHOSS system compatible

	Panel (KPCM)	Remote control (KTCM)	Recessed panel (KICM)	KCMS CMS	KMVR MVR	KSTI STI
Power supply	(from CMS board)	2 x AAA 1.5V batteries	(from CMS board)	230Vac ±10% 50/60Hz	(from CMS board)	/
Protection rating	IP30	IP30	IP30	IP00	IP00	IP00
CE Standards	EN50081-1 EN50082-1 EN60730-1	EN60730-1	EN50081-1 EN50082-1 EN60730-1	EN50081-1 EN50082-1 EN60730-1	EN50081-1 EN50082-1 EN60730-1	EN60730-1
Adjustment field	Summer 17÷32 °C Winter 8÷27 °C	Summer 17÷32 °C Winter 8÷27 °C	Summer 17÷32 °C Winter 8÷27 °C	/	/	/
Outputs	4=GND 5=TX 6=V+	/	1= V+ 2=TX 3= GND	2 relays 230Vac 5A AC1	4 relays 230Vac 5A AC1	/
Total maximum load	/	/	/	5(2) A	2(2) A	
Operating range	0÷50 °C RH 10÷90%	0÷50 °C RH 10÷90%	0÷50 °C RH 10÷90%	0÷60 °C RH 10÷90%	0÷60 °C RH 10÷90%	0÷60 °C RH 10÷90%
Colour	Pantone 427C	Pantone 427C	Black	/	/	Black

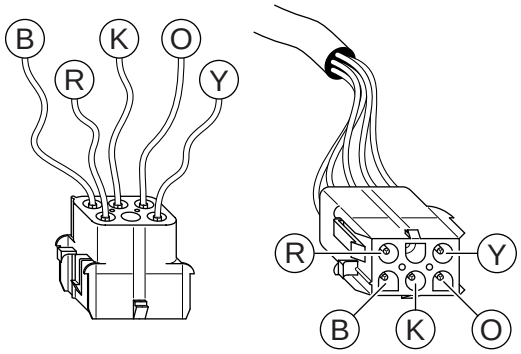
Electrical connection of the units

BrioEV / YardyEV Connection

MOP – MOT – IVP – IVF – IOP Versions

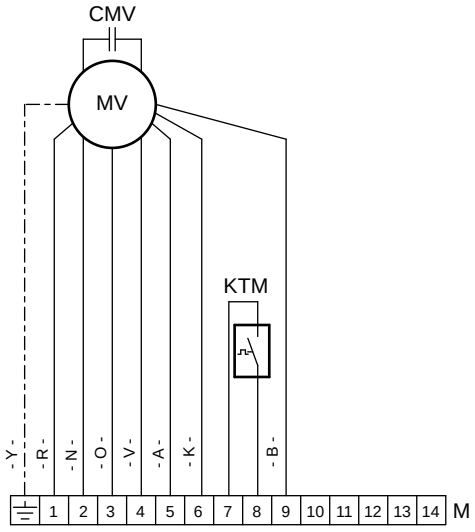


MVP – MVT Versions



	Colour	MVT-MVP-MOP-MOT-IVP-IVF-IOP
B	Blue	Common
R	Red (Grey)	Minimum
O	Orange (Brown)	Medium
K	Black	Maximum
Y	Yellow/Green	

DUCT Versions



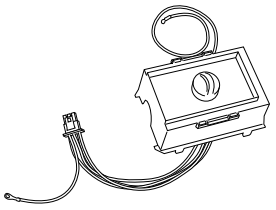
Key:

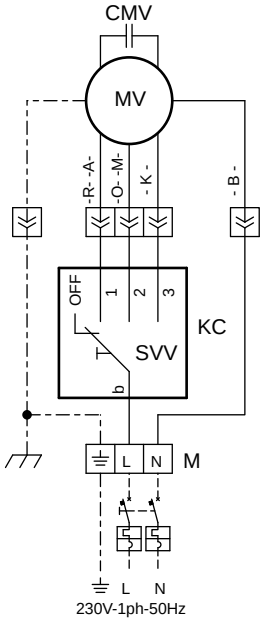
B	Blue (common)
K	Black (speed I) (max)
A	Grey (speed II)
V	Purple (speed III)
O	Orange (speed IV)
N	Brown (speed V)
R	Red (speed VI) (min)
Y	Yellow/Green
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
KTM	Minimum thermostat accessory
----	The installer is responsible for the connections

BrioEV and YardyEV

Electrical connection of standard controls

KC (supplied separately) OFF/1/2/3 speed switch (for MVP and MVT versions).
C (factory fitted) Fitted only on the machine.



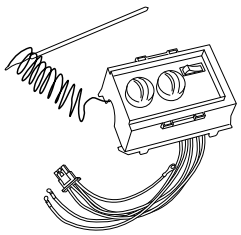


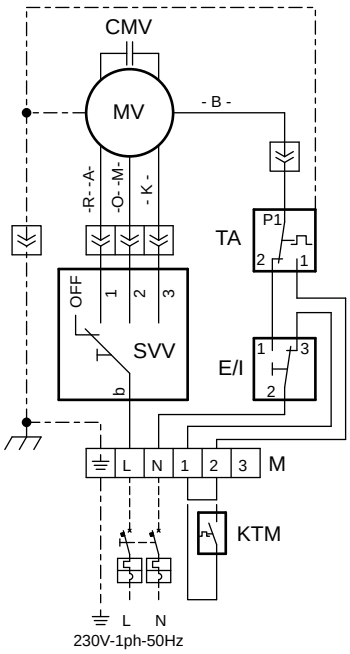
KC	Control panel
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
SVV	Fan speed selector
- - - -	The connection is to be set up by the installer

COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

KTA (supplied separately)
TA (factory fitted)
TATM (factory fitted)

Room thermostat complete with OFF/1/2/3 speed and SUMMER/WINTER switch (for MVP and MVT versions) with the option of connecting the minimum thermostat externally. Fitted only on the machine. The TATM version is supplied complete with the minimum thermostat.



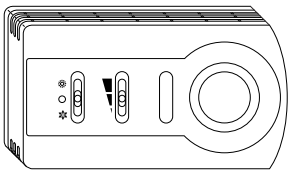


KTA	Control panel
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
SVV	Fan speed selector
KTM	Minimum thermostat (accessory)
TA	Room thermostat
E/I	Summer/winter switch
- - - -	The connection is to be set up by the installer

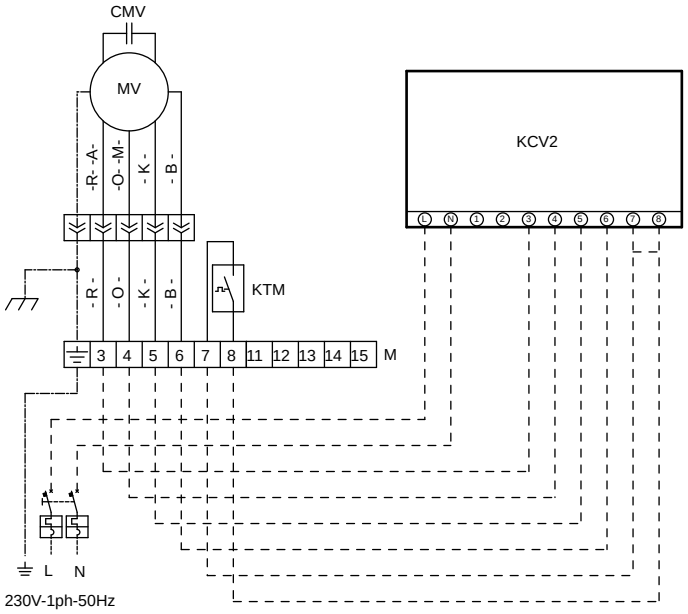
COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

KCV2 (supplied separately)

Panel with 3-speed switch complete with the summer/off/winter switch with the option of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x40 mm)

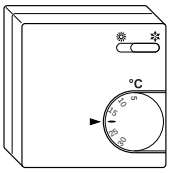


KCV2	Control panel
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
SVV	Fan speed selector
KTM	Minimum thermostat (accessory)
- - - -	The connection is to be set up by the installer

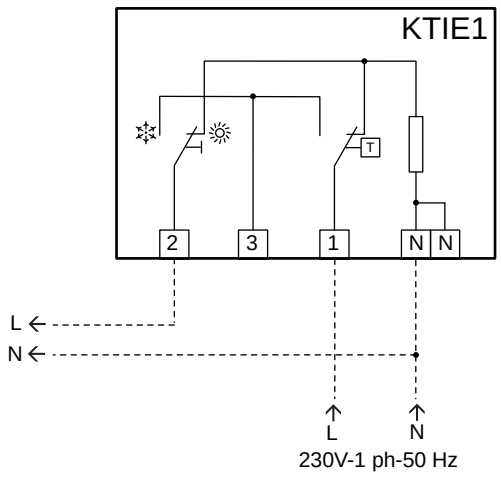
COM	**MIN**	**MED**	**MAX**
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

KTIE1 (supplied separately)

Panel with room thermostat complete with the summer/winter switch. Wall mounted.



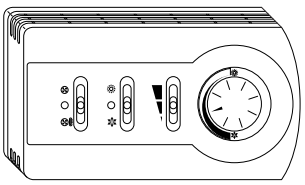
(Dimensions 75 x75 x 25.5 mm)



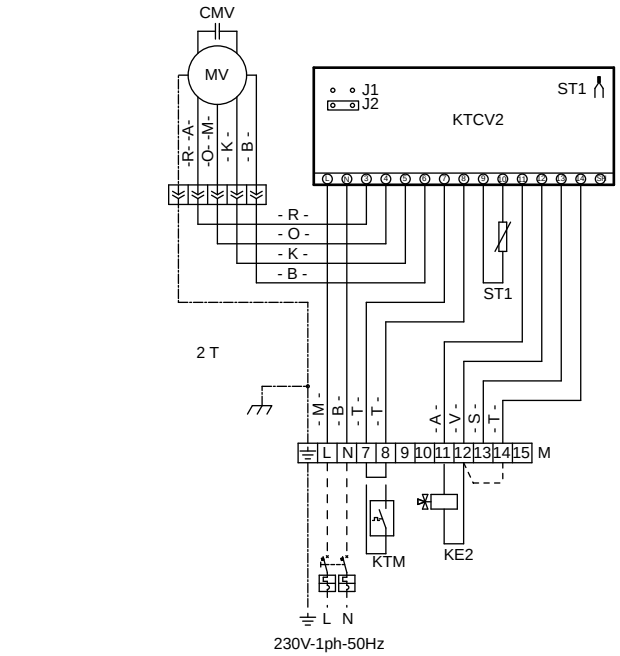
KTIE1	Control panel
- - - -	The connection is to be set up by the installer

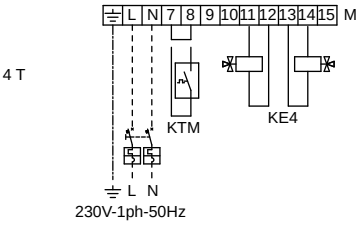
KTCV2-KBTCV2 (supplied separately)
TCV2TM-TCV2R (factory fitted)

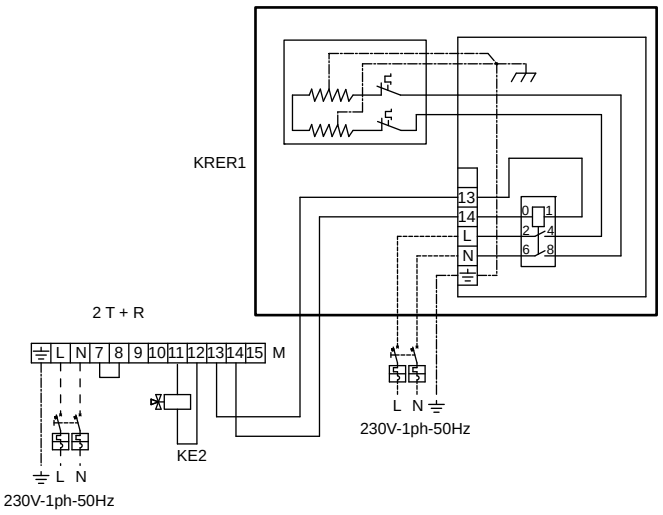
Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electrical resistance (KRER1) or 4-pipe systems, with the option of connecting the minimum thermostat externally. Fitted on the machine (KBTCV2) or wall mounted (KTCV2).
The TCV2TM control is supplied complete with the minimum thermostat.



(Dimensions 145 x 82 x40 mm)







KTCV2	Control panel
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
ST1	Air temperature probe
KTM	Minimum thermostat (Accessory)
KE2	Hot/cold valve (Accessory)
KE4	Hot + cold valve (Accessory)
KRER1	Electrical resistance + relay (Accessory)
- - - -	The connection is to be set up by the installer

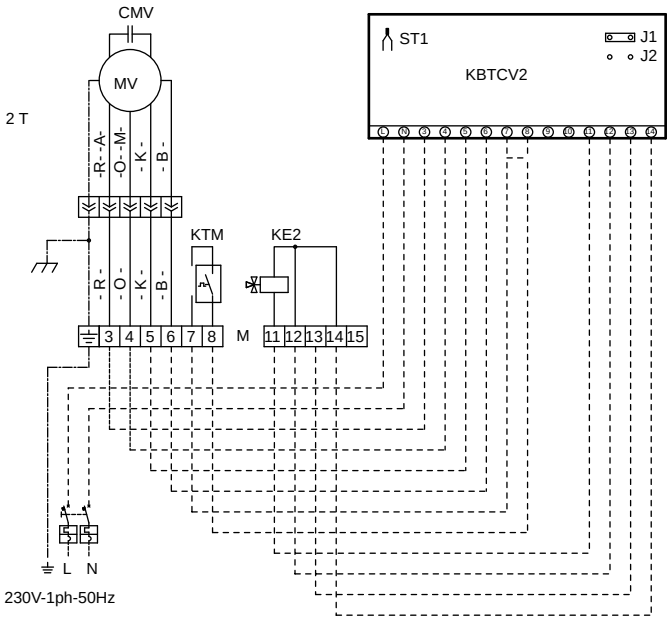
COM	**MIN**	**MED**	**MAX**
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

- T -	White
- S -	Pink
- V -	Purple
- A -	Grey
- M -	Brown
- O -	Orange
- B -	Blue
- R -	Red
- K -	Black

Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe

Do not fit the TM in the presence of the electrical resistance.

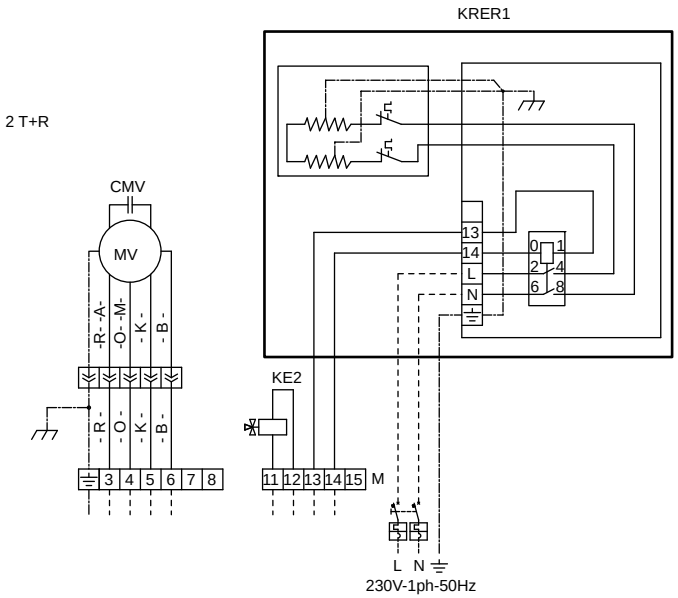
2T = 2 pipes
4T = 4 pipes
2T + R = 2 pipes + resistance



KBTCV2	Control panel
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
ST1	Air temperature probe
KTM	Minimum thermostat (Accessory)
KE2	Hot/cold valve (Accessory)
KE4	Hot + cold valve (Accessory)
KRER1	Electrical resistance + relay (Accessory)
- - - -	The connection is to be set up by the installer

COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

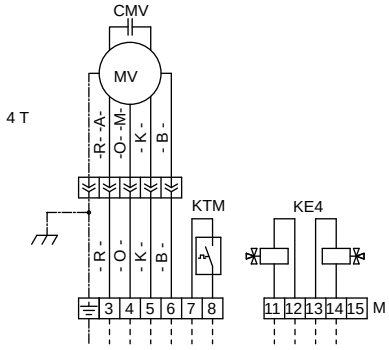
- T -	White
- S -	Pink
- V -	Purple
- A -	Grey
- M -	Brown
- O -	Orange
- B -	Blue
- R -	Red
- K -	Black



Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe

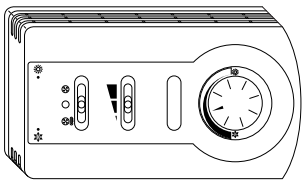
Do not fit the TM in the presence of the electrical resistance.

2T = 2 pipes
4T = 4 pipes
2T + R = 2 pipes + resistance

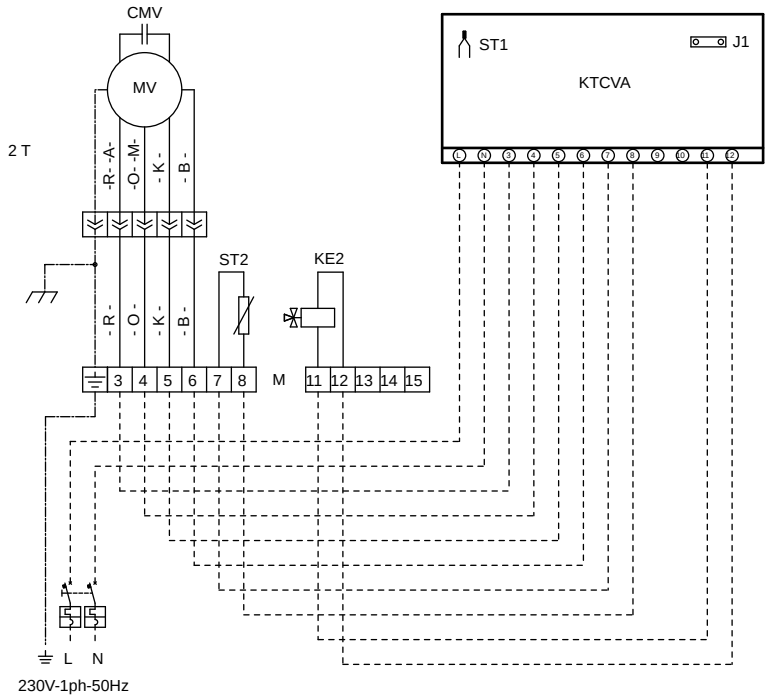


KTCVA-KBTCVA (supplied separately)
TCVA (factory fitted)

Electronic control panel including: continuous/off/thermostat ventilation switch; 3-speed switch; room thermostat; automatic summer/winter switch; heating/cooling red/green LED; auxiliary contact (230 Vac) to control the ON/OFF valve in 2-pipe systems. Minimum thermostat function. Fitted on the machine (KBTCVA) or wall mounted (KTCVA).



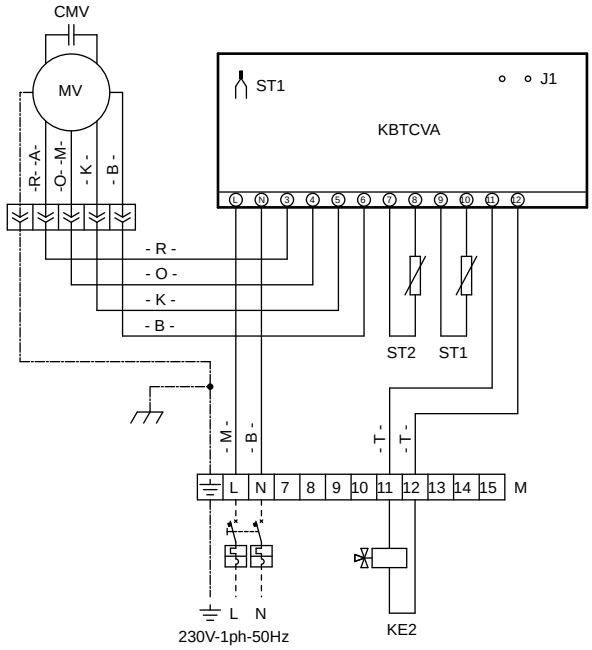
(Dimensions 145 x 82 x 40 mm)



KTCVA	Wall-mounted control panel
KBTCVA	Control panel on board the machine
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
ST1	Air temperature probe
ST2	Water temperature probe
KE2	Hot/cold valve (Accessory)
- - - -	The connection is to be set up by the installer

COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

2T = 2 pipes



- T -	White
- S -	Pink
- V -	Purple
- A -	Grey
- M -	Brown
- O -	Orange
- B -	Blue
- R -	Red
- K -	Black

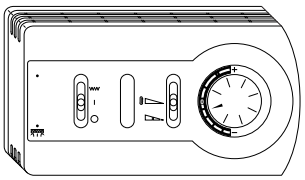
Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe

The ST2 water probe is included in the thermostat package.

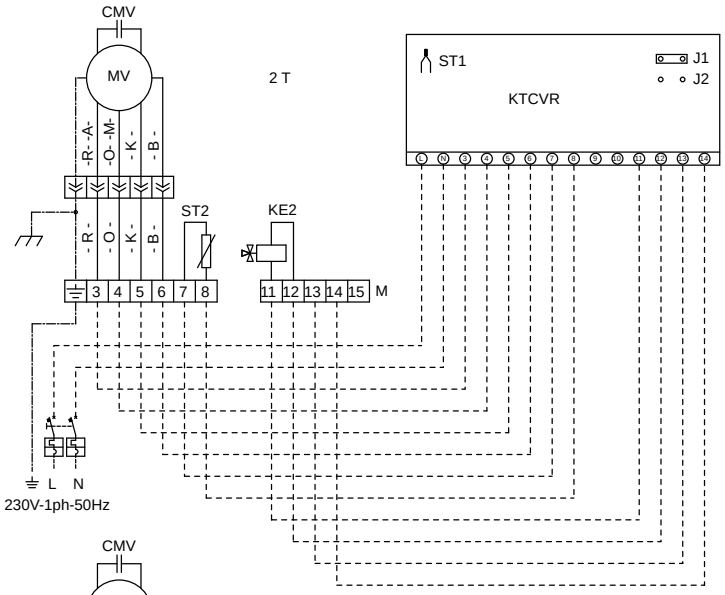
The ST2 water probe must be fitted upstream the ON/OFF valve if this is present.

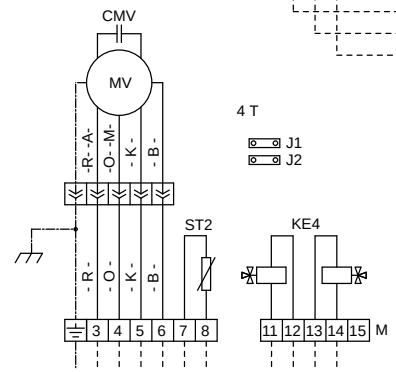
KTCVR-KBTCVR (supplied separately)
TCVR-TCVRR (factory fitted)

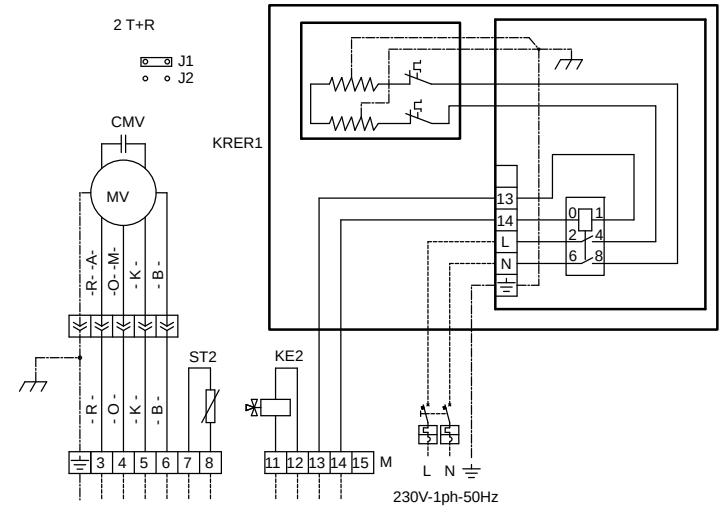
Electronic control panel including: on/off/electrical resistance switch; automatic summer/winter switch; automatic speed/minimum speed switch; ±5°C comfort adjustment knob; auxiliary contacts (230 Vac) to control the ON/OFF valve in 2-pipe systems, 2-pipe systems with electrical resistance (KRER1) or 4-pipe systems. Minimum thermostat function, destratification cycle and dirty filter signal. Fitted on the machine (KBTCVR) or wall mounted (KTCVR).



(Dimensions 145 x 82 x 40 mm)







KTCVR	Wall-mounted control panel
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
ST1	Air temperature probe
ST2	Water temperature probe
KE2	Hot/cold valve (Accessory)
KE4	Hot + cold valve (Accessory)
KRER1	Electrical resistance + relay (Accessory)
- - - -	The connection is to be set up by the installer

COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

- T -	White
- S -	Pink
- V -	Purple
- A -	Grey
- M -	Brown
- O -	Orange
- B -	Blue
- R -	Red
- K -	Black

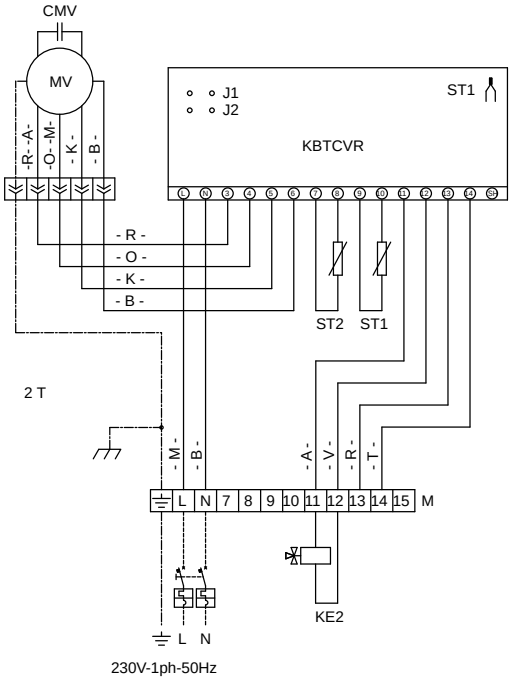
Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe
Jumper J2 Closed = 4-pipe system
Jumper J2 Open = 2-pipe system (2 pipes + resistance)

The ST2 water probe is included in the thermostat package.

2-pipe system (2 pipes + re) Jumper J2 open and ST2 water probe upstream the valve (if present)

4-pipe system Jumper J2 closed and ST2 water probe placed on the hot coil (with or without the valve)

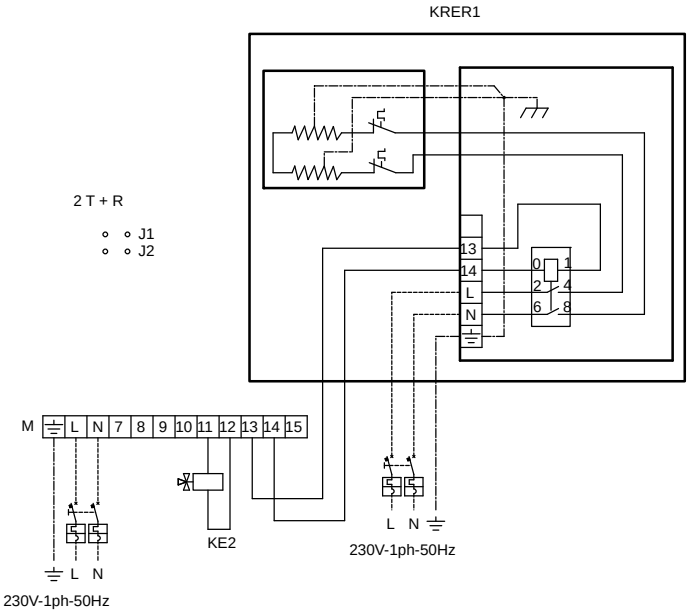
2T = 2 pipes
4T = 4 pipes
2T + R = 2 pipes + resistance



KBTCVR	Control panel on board the machine
CMV	Fan motor condenser
M	Terminal board
MV	Fan motor
ST1	Air temperature probe
ST2	Water temperature probe
KE2	Hot/cold valve (Accessory)
KE4	Hot + cold valve (Accessory)
KRER1	Electrical resistance + relay (Accessory)
- - - -	The connection is to be set up by the installer

COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black
	- A -	- M -	
	Grey	Brown	

- T -	White
- S -	Pink
- V -	Purple
- A -	Grey
- M -	Brown
- O -	Orange
- B -	Blue
- R -	Red
- K -	Black

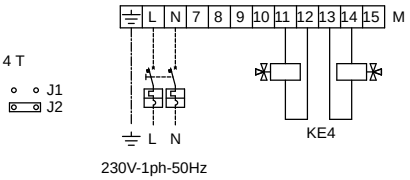


Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe
Jumper J2 Closed = 4-pipe system
Jumper J2 Open = 2-pipe system (2 pipes + resistance)

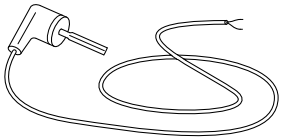
2-pipe system (2 pipes + resistance) Jumper J2 open and ST2 water probe upstream the valve (if present)

4-pipe system Jumper J2 closed and ST2 water probe placed on the hot coil (with or without the valve)

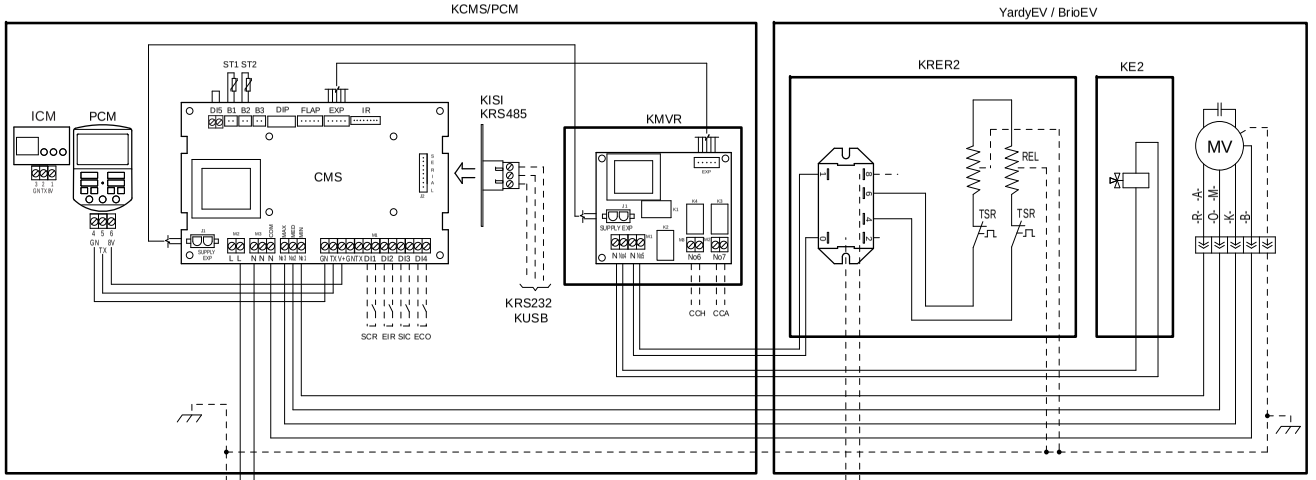
2T = 2 pipes
4T = 4 pipes
2T + R = 2 pipes + resistance



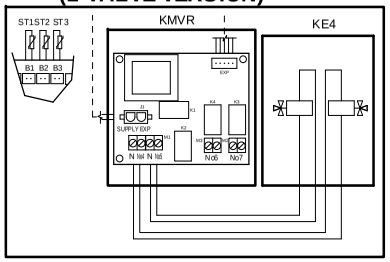
KTM (supplied separately) Minimum temperature thermostat for winter mode.

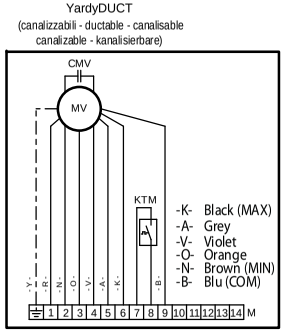


(1-VALVE + RESISTANCE VERSION)



(2-VALVE VERSION)



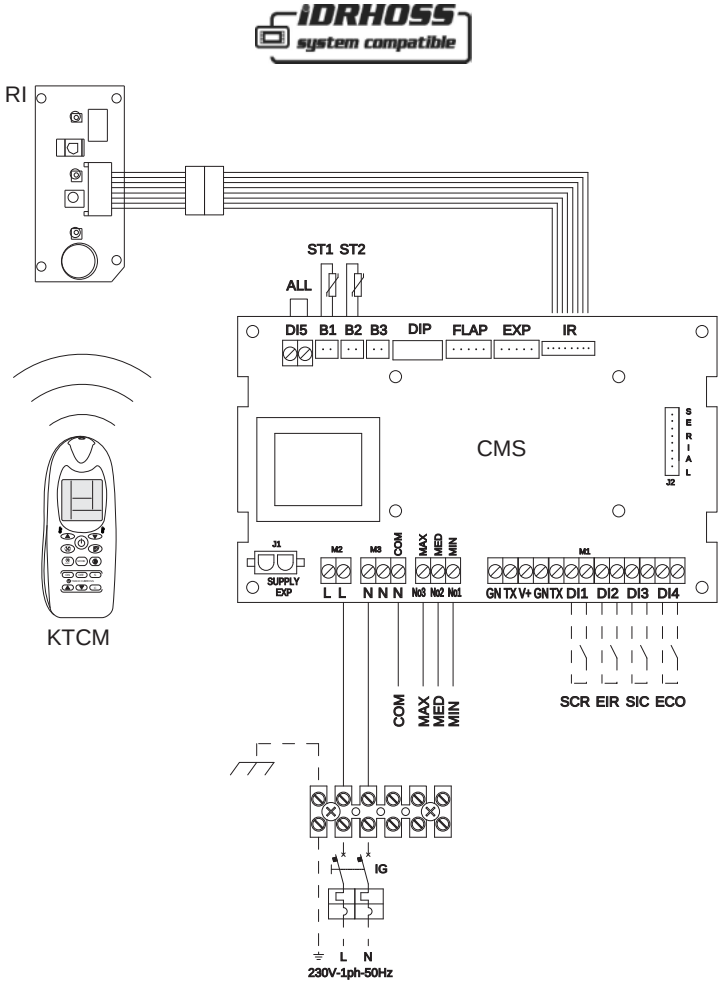


YardyEV and BrioEV CMS/PCM

YardyEV / BrioEV – Base unit
CMS – Electronic control
PCM – Control panel
ICM – Recessed control panel
IG – Master Switch
L – Line
N – Neutral
SCR – Remote control selector
SIC – Outdoor safety
EIR – Summer/winter remote selector
ECO – Economy function selector
CCH – Chiller consent
CCA – Boiler consent
ST1 – Air temperature probe
ST2 – Water temperature probe
ST3 – Water temperature probe (KSTI accessory)
KMVR – Valve-resistance module
KISI – Can-bus serial interface module
KRS485 – RS485 serial interface module
KE2 – Hot/cold valve accessory
KE4 – Hot + cold valve accessory
MV – Fan motor
TSR – Electrical resistance safety thermostat
KRS232 – RS485-RS232 converter
KUSB – RS485-USB converter
REL – Electrical resistance
KRER2 – Electrical resistance + relay
- - - - The installer is responsible for the connections

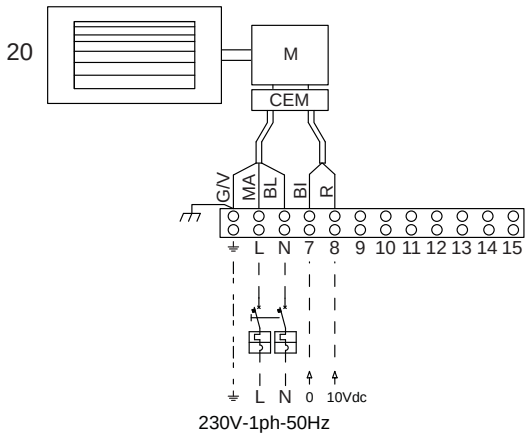
COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black

Electrical connection of advanced controls: KCMS + KTCM

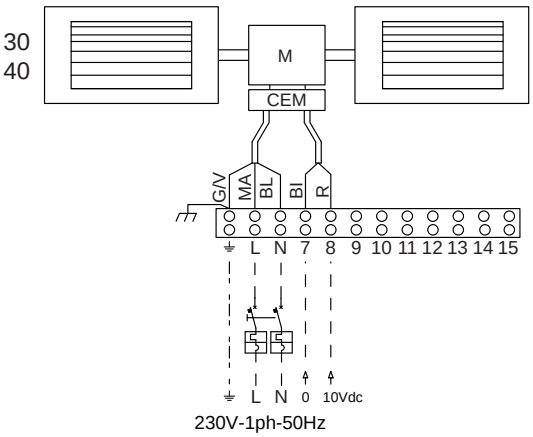


CMS	Electronic control
KTCM	Remote control (supplied separately)
PL	Frame
IG	Master Switch
RI	Receiver board
L	Line
N	Neutral
SCR	Remote control selector
SIC	Outdoor safety
EIR	Remote summer/winter selector
ECO	Economy function selector
ALL	Alarm inlet
ST1	Air temperature probe
ST2	Water temperature probe
- - - -	The installer is responsible for the connections

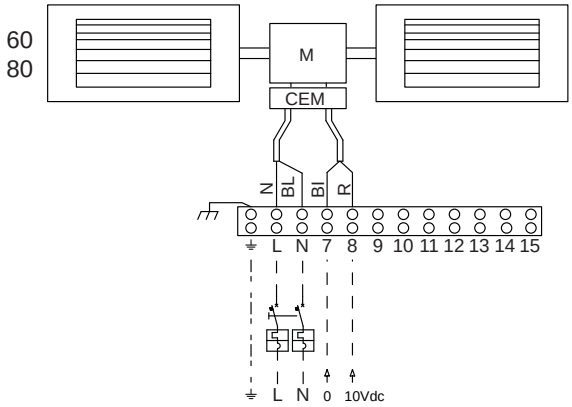
Wiring diagrams of Brio-I and Yardy-I YARDY-ID combinations



230V-1ph-50Hz



230V-1ph-50Hz

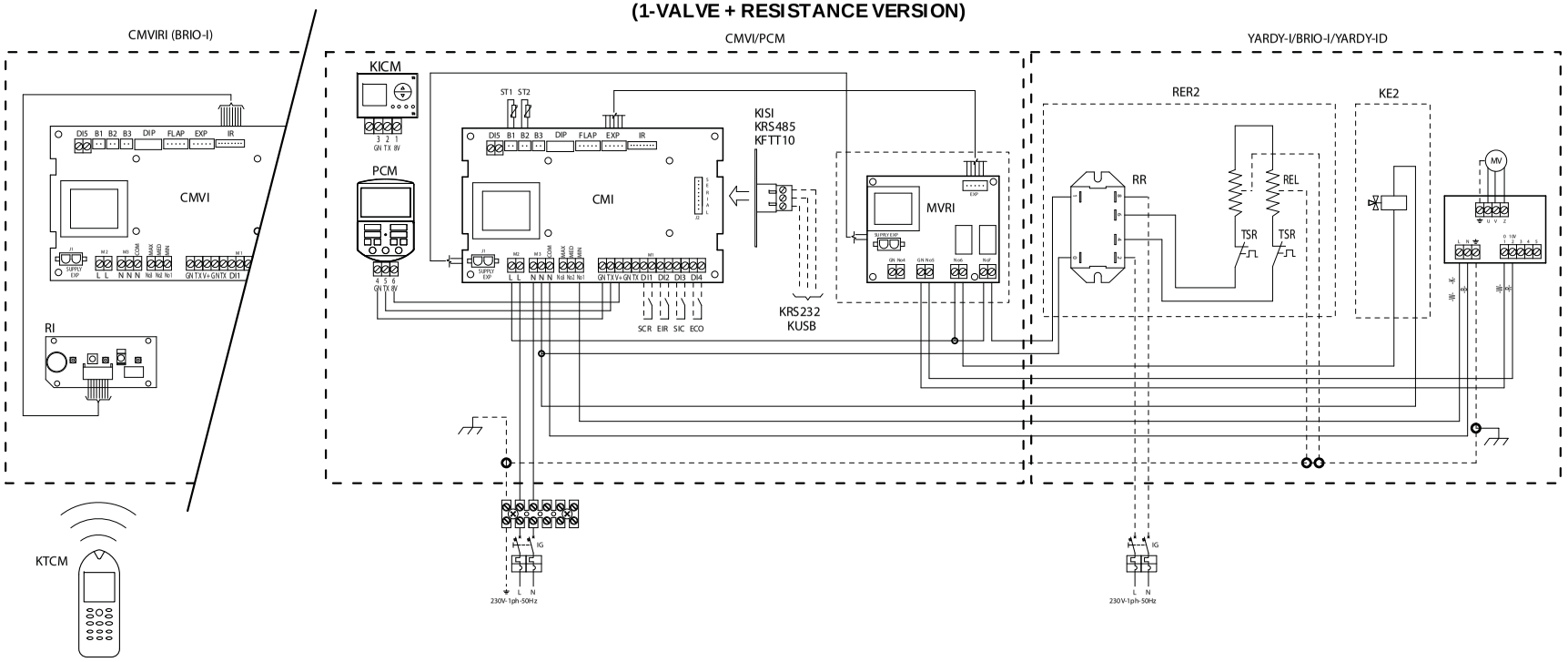


230V-1ph-50Hz

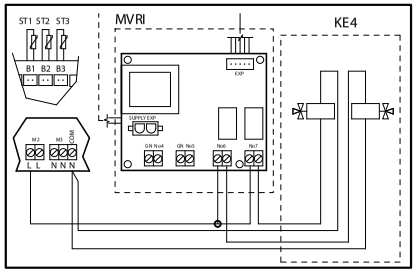
	Colour	
BL	Blue	Neutral
MA	Brown	Line
N	Black	Line
G/V	Yellow/Green	Earth
BI	White	0Vdc
R	Red	10Vdc
M	Brushless motor	
CEM	Motor electronic control	

Yardy-I / Brio-I / Yardy-ID – Electrical connection of advanced controls

(1-VALVE + RESISTANCE VERSION)



(2-VALVE VERSION)

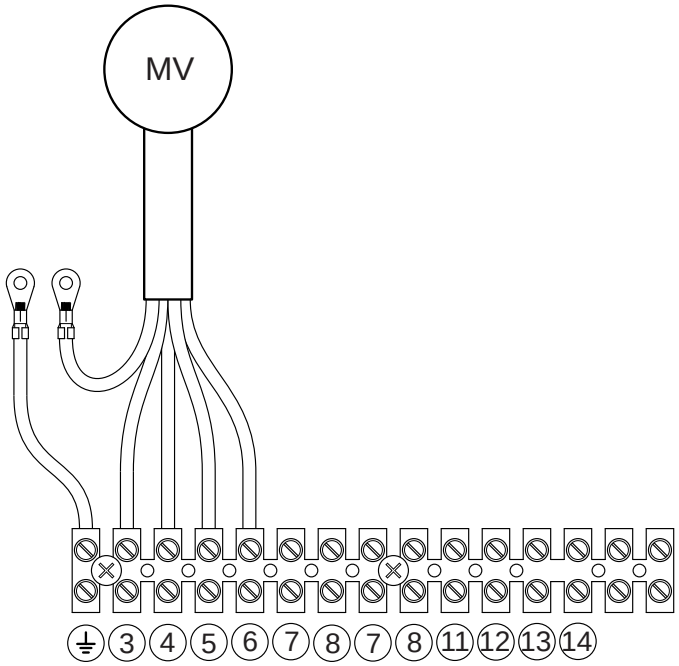


Yardy-I / Brio-I / Yardy-ID – Base unit
CMI – Electronic control
PCM – Control panel
KICM – Recessed control panel
KTCM – Remote Control
IG – Master Switch
RI – Receiver board
L – Line
N – Neutral
SCR – Remote control selector
SIC – Outdoor safety
EIR – Summer/winter remote selector
ECO – Economy function selector
ST1 – Air temperature probe
ST2 – Water temperature probe
ST3 – Water temperature probe (KSTI accessory)

MVRI – Valve-resistance module
RR – Electrical resistance relay
KISI – Can-bus serial interface module
KRS485 – RS485 serial interface module
KFTT10 – LON serial interface module
KE2 – Hot/cold valve accessory
KE4 – Hot + cold valve accessory
MV – Fan motor
TSR – Electrical resistance safety thermostat
RER2 – Electrical resistance module
REL – Electrical resistance
- - - - The installer is responsible for the connections

- K -	- M -	- B -	- R -	- W -
Black	Brown	Blue	Red	White

Yardy HP Connection

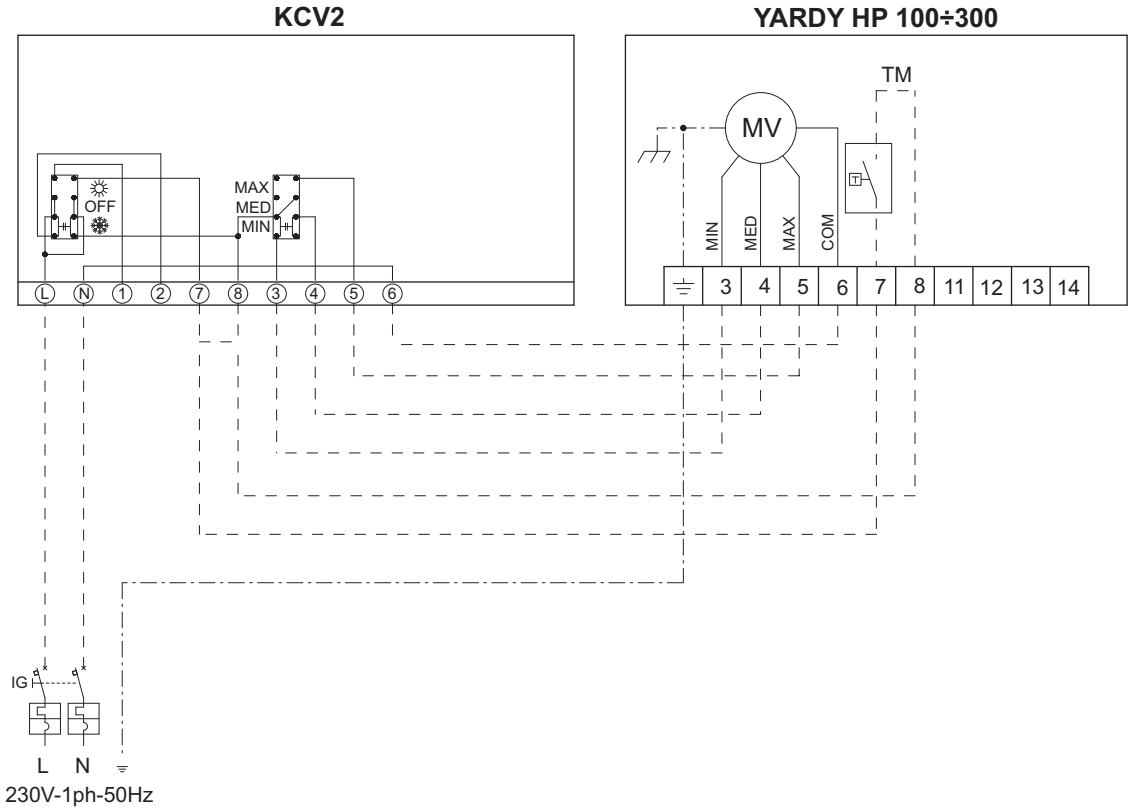


		Model		
		100	**150**	**200-250-300**
3	Minimum	Red	Orange	Red
4	Medium	Orange	Black	Orange
5	Maximum	Black	Brown	Black
6	Common	Blue	Blue	Blue
⏚	Earth	Yellow/Green	Yellow/Green	Yellow/Green

Yardy HP	Base unit
KCV2- KTCV2-KCTVA-KTCVR	Control panel
IG	Automatic master switch
TM	Minimum thermostat
EV	Summer/winter electrovalve
EV1 / EV2	Summer electrovalve / Winter electrovalve
ST1 / ST2	Air probe / Water probe
L	Line
N	Neutral
- - - -	The installer is responsible for the connections
☼ / ❄	Heating / Cooling

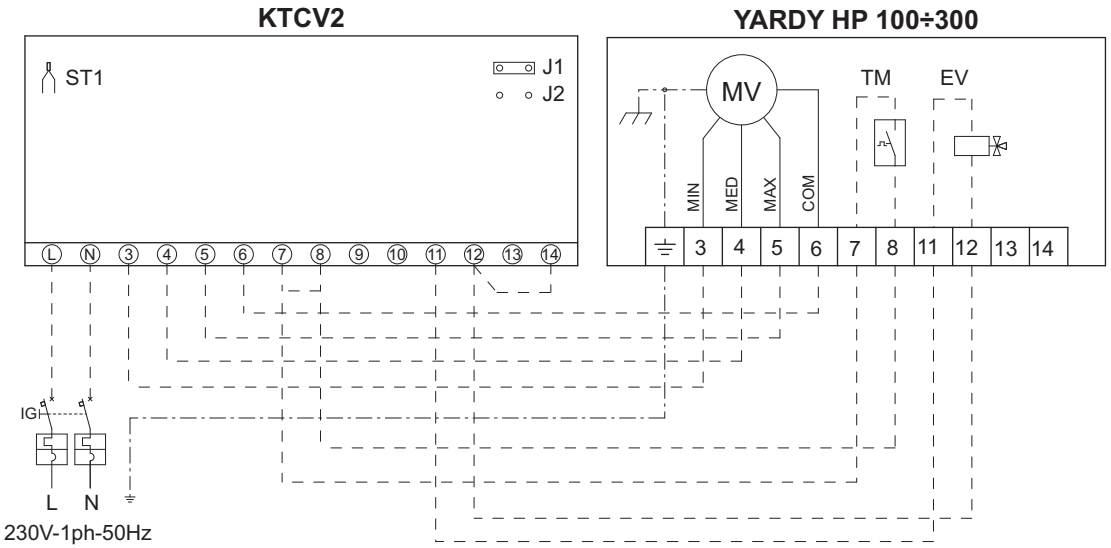
	100	**150**	**200÷300**
Min	Red	Orange	Red
Med	Orange	Black	Orange
Max	Black	Brown	Black
Com		Blue	

Yardy HP + KCV2 (2 pipes)



TM not supplied

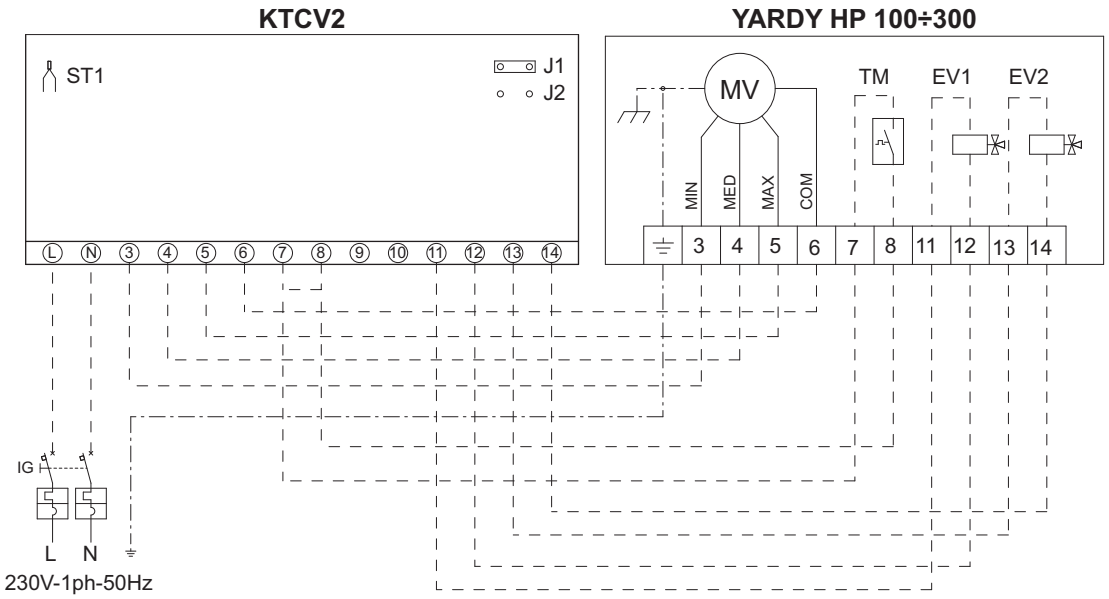
Yardy HP + KTCV2 (2 pipes)



TM not supplied

Jumper J1 closed = Internal ST1 air probe
Jumper J2 closed = External ST1 air probe

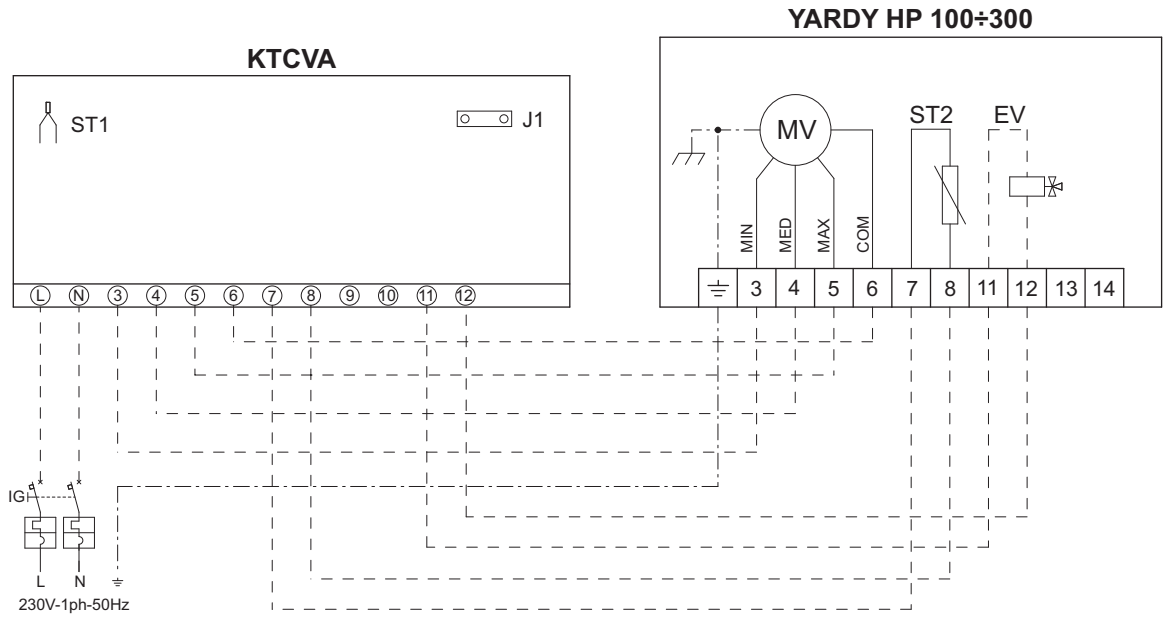
Yardy HP + KCV2 (4 pipes)



TM not supplied

Jumper J1 closed = Internal ST1 air probe
Jumper J2 closed = External ST1 air probe

Yardy HP + KTCVA (2 pipes)



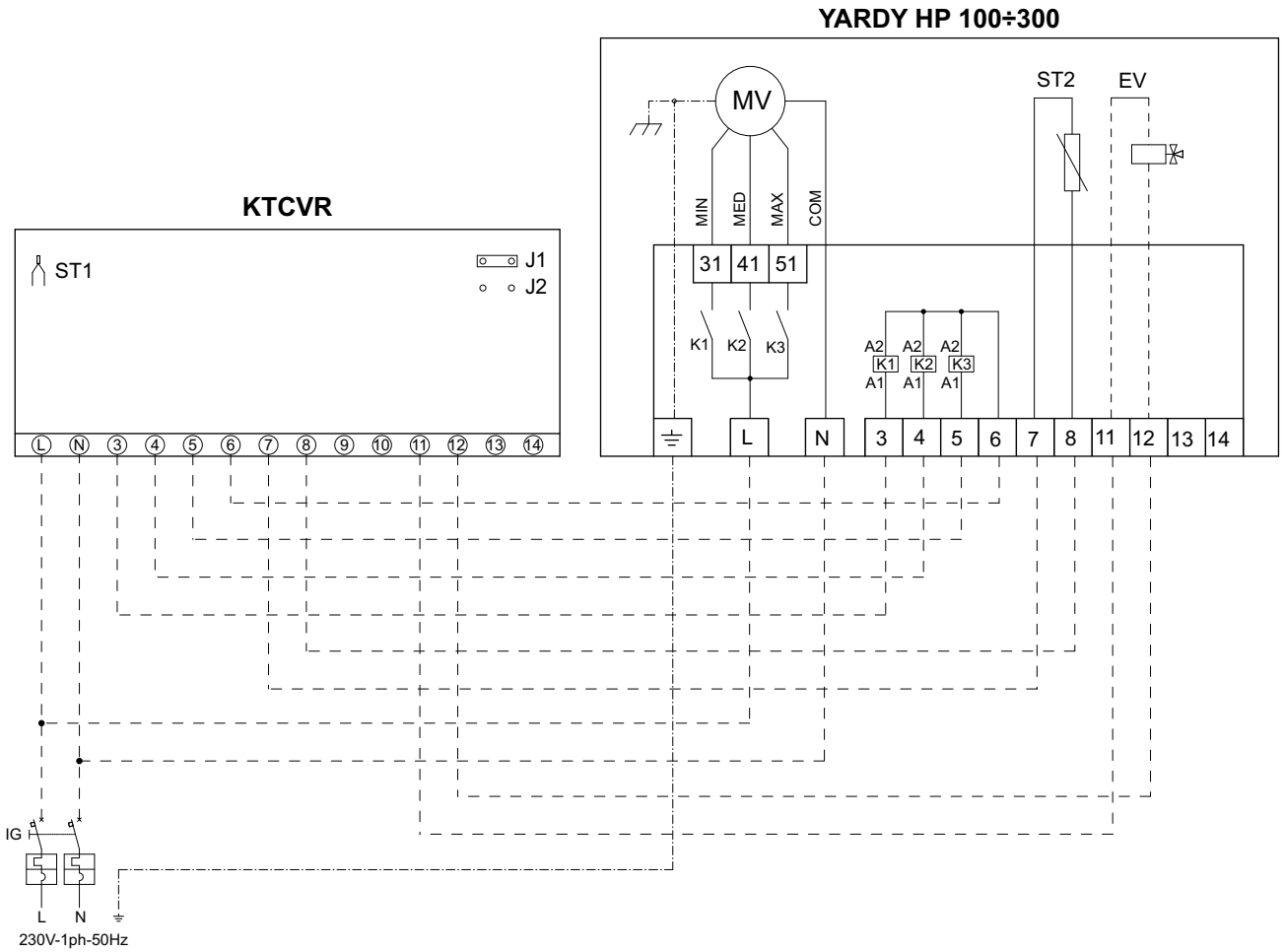
Jumper J1 closed = Internal ST1 air probe

Jumper J1 open = External ST1 air probe

The ST2 probe is included in the thermostat package.

The ST2 water probe must be fitted upstream the ON/OFF valve if this is present.

Yardy HP + KTCVR (2 pipes)



Jumper J1 closed = Internal ST1 air probe

Jumper J2 closed = 4 pipes

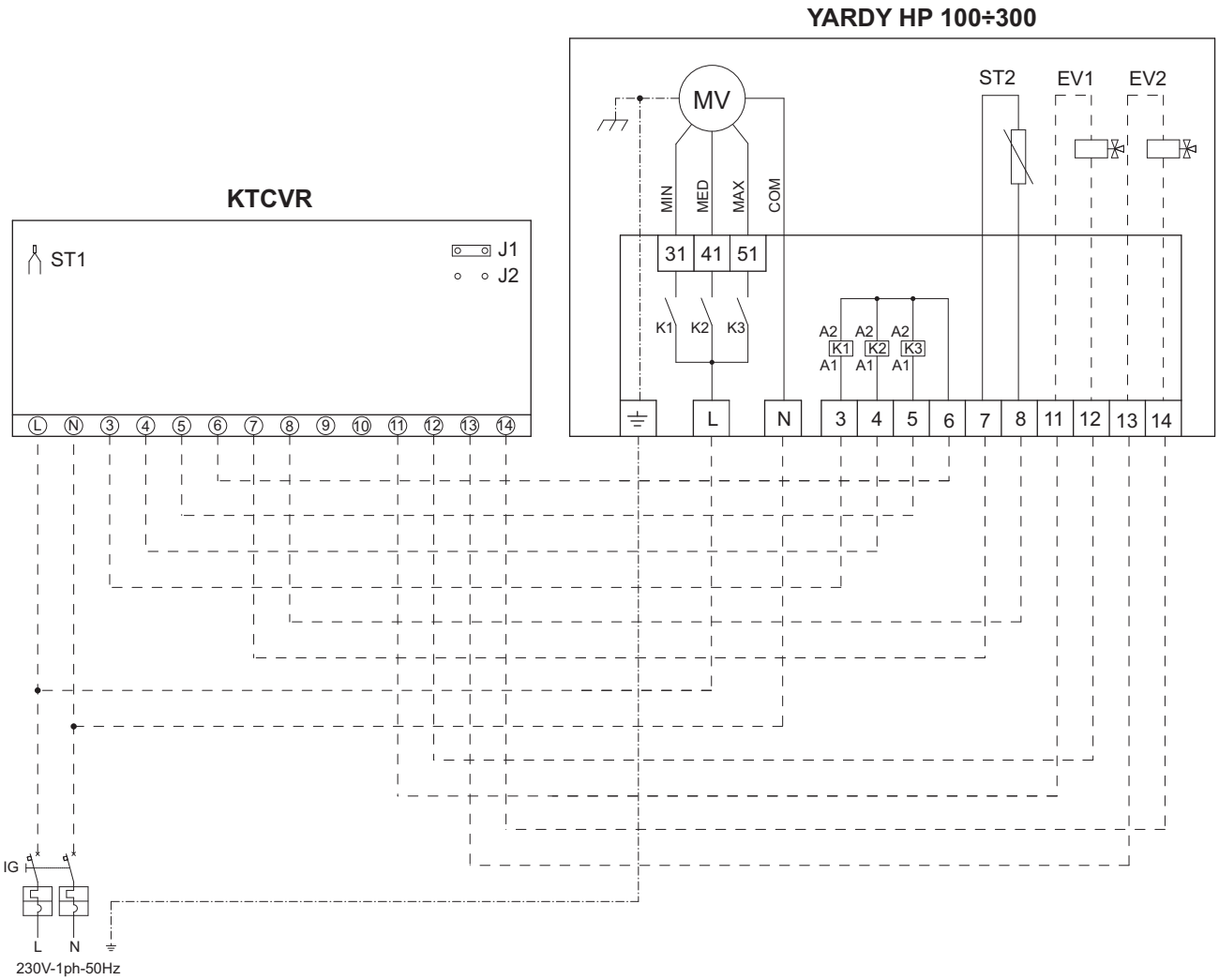
Jumper J1 open = External ST1 air probe

Jumper J2 open = 2 pipes (2 pipes + RE)

The ST2 probe is included in the thermostat package.

2-pipe system (2 pipes + RE) Jumper J2 open and ST2 water probe upstream the valve (if present).

Yardy HP + KTCVR (4 pipes)



Jumper J1 closed = Internal ST1 air probe

Jumper J2 closed = 4 pipes

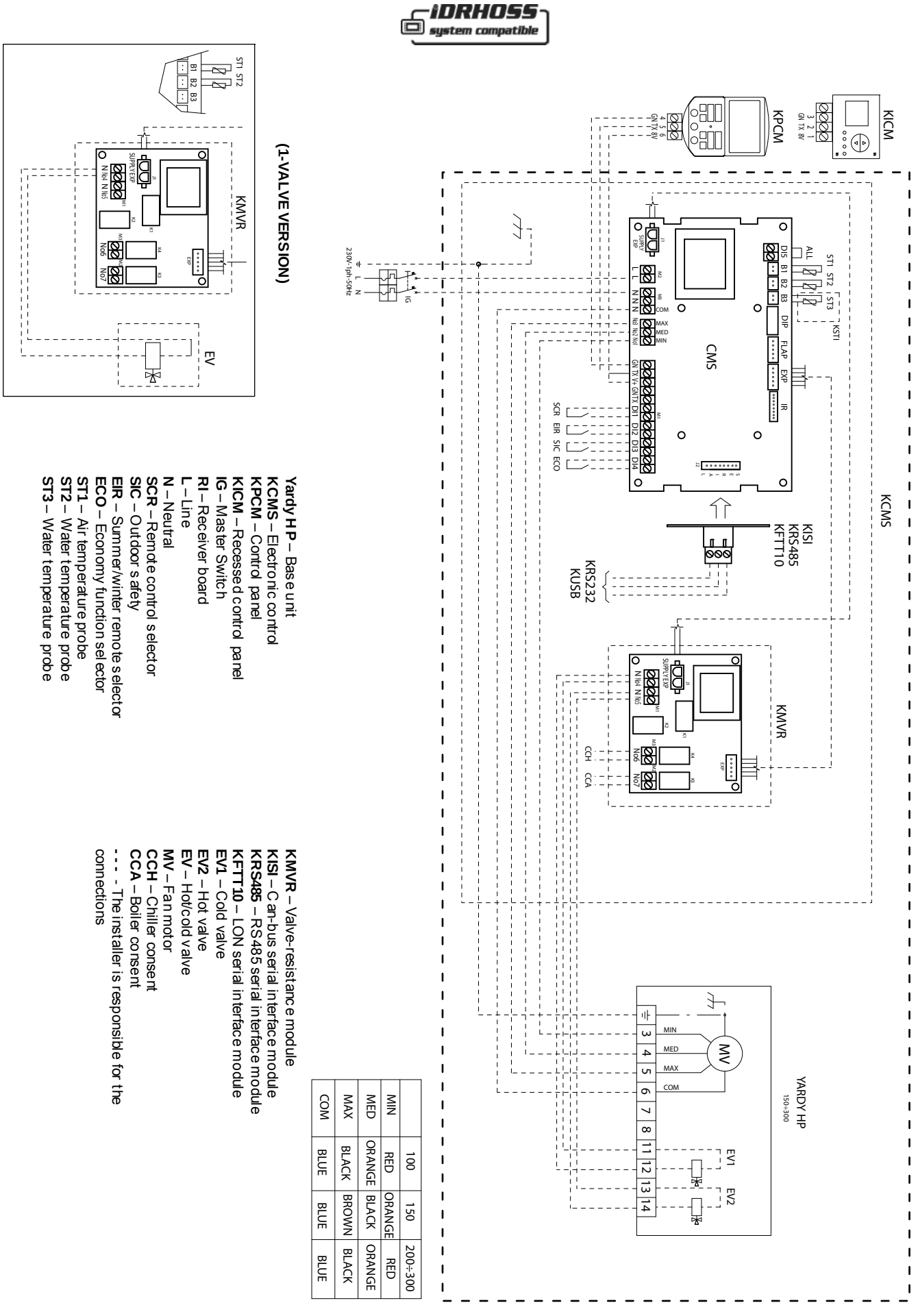
Jumper J1 open = External ST1 air probe

Jumper J2 open = 2 pipes (2 pipes + RE)

The ST2 probe is included in the thermostat package.

4-pipe system Jumper J2 closed and ST2 water probe placed on the hot coil (with or without the valve).

Electrical connection of advanced controls – Yardy HP

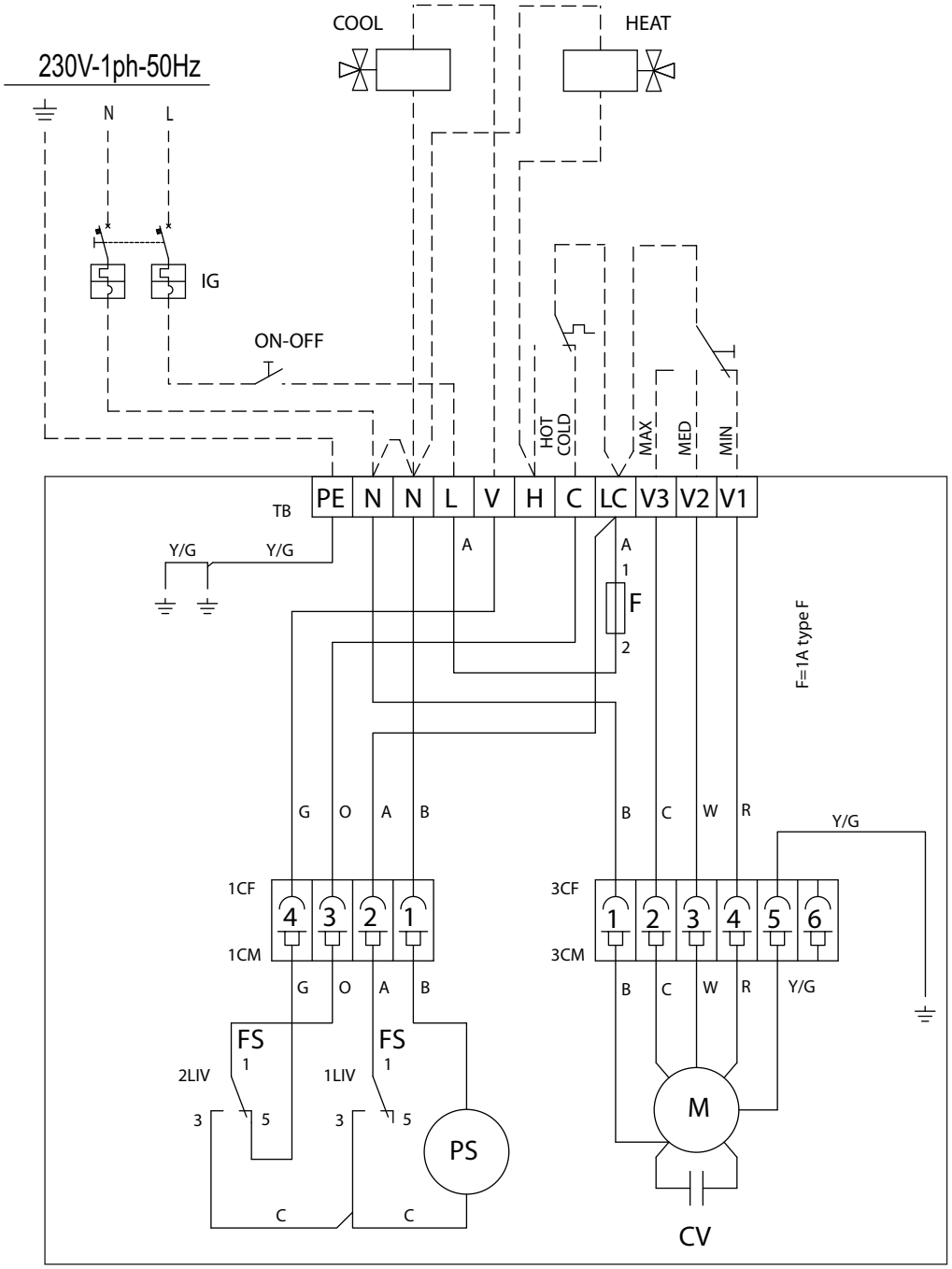


	100	150	200÷300
MIN	RED	ORANGE	RED
MED	ORANGE	BLACK	ORANGE
MAX	BLACK	BROWN	BLACK
COM	BLUE	BLUE	BLUE

Yardy HP – Base unit
KCMS – Electronic control
KPCM – Control panel
KICM – Recessed control panel
IG – Master Switch
RI – Receiver board
L – Line
N – Neutral
SCR – Remote control selector
SIC – Outdoor safety
EIR – Summer/winter remote selector
ECO – Economy function selector
ST1 – Air temperature probe
ST2 – Water temperature probe
ST3 – Water temperature probe

KMVR – Valve-resistance module
KISI – Can-bus serial interface module
KRS485 – RS485 serial interface module
KFTT10 – LON serial interface module
EV1 – Cold valve
EV2 – Hot valve
EV – Hot/cold valve
MV – Fan motor
CCH – Chiller consent
CCA – Boiler consent
- - - - The installer is responsible for the connections

UTNC-EV connection (standard electrical connection)



——	Wiring by the manufacturer
- - - -	Wiring by the installer
	Connector
	Terminal connection point
	Normally closed contact
	Normally open contact
F	Fuse 1A F-type
CV	Fan motor condenser
FS	Micro safety float
M	Unit fan motor
PS	Drain pump
CF/CM	Connectors
KV2 **KV3**	Hot/cold water electroval ve
KV2B4 **KV3B4**	Hot+cold water electroval ve
REL	Electric heater
ST	Safety thermostat
TB	Terminal board
V1	Low speed
V2	Medium speed
V3	High speed
LC	Power supply line
H	Heating selections
C	Cooling selections
H	Heating output
V	Cooling output
L	Line phase
N	Neutral

Cable colour

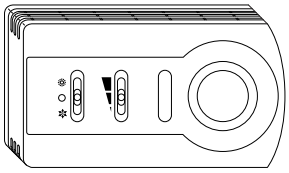
C	Black
W	White
A	Brown
R	Red
G	Grey
B	Blue
V	Purple
Y	Yellow
O	Orange
Y-G	Yellow-Green

UTNC-EV

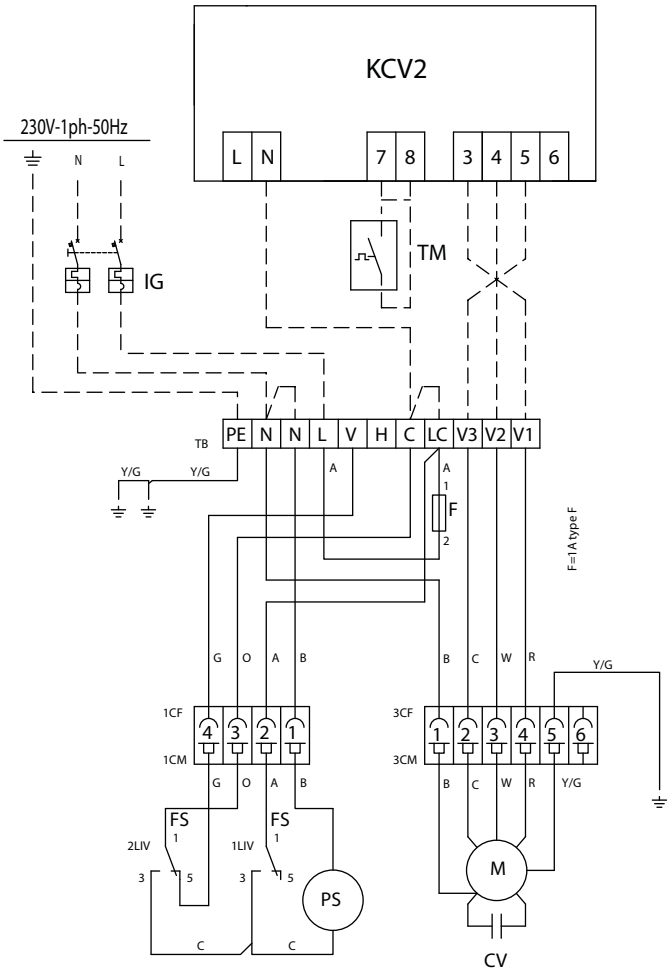
Electrical connection of standard controls

KCV2 (supplied separately)

Panel with 3-speed switch complete with the summer/off/winter switch with the option of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x40 mm)

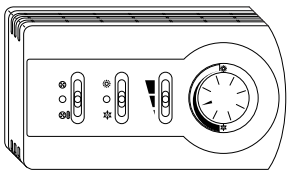


KCV2	Control panel
IG	Automatic master switch
TM	Minimum thermostat
- - - -	The connection is to be set up by the installer

Notes: Heating
Cooling

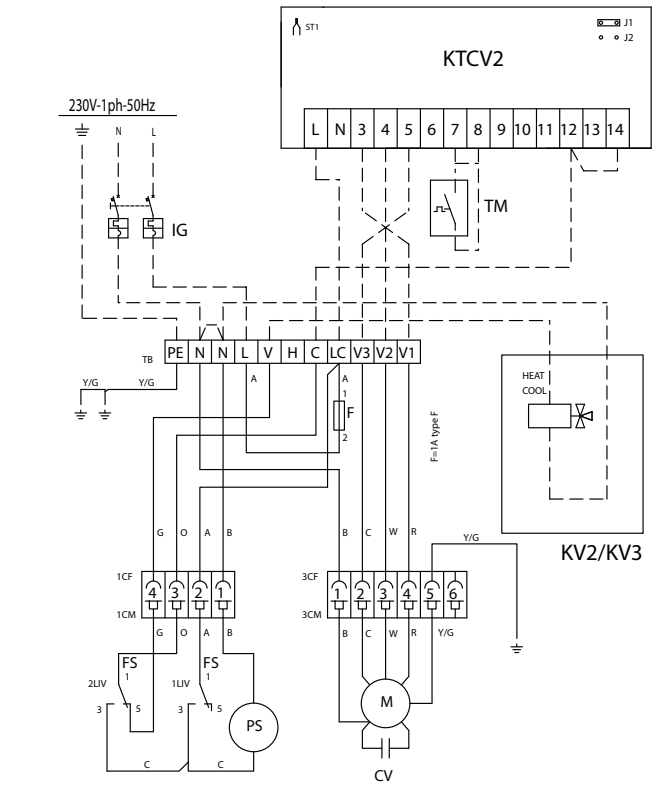
KTCV2 (supplied separately)

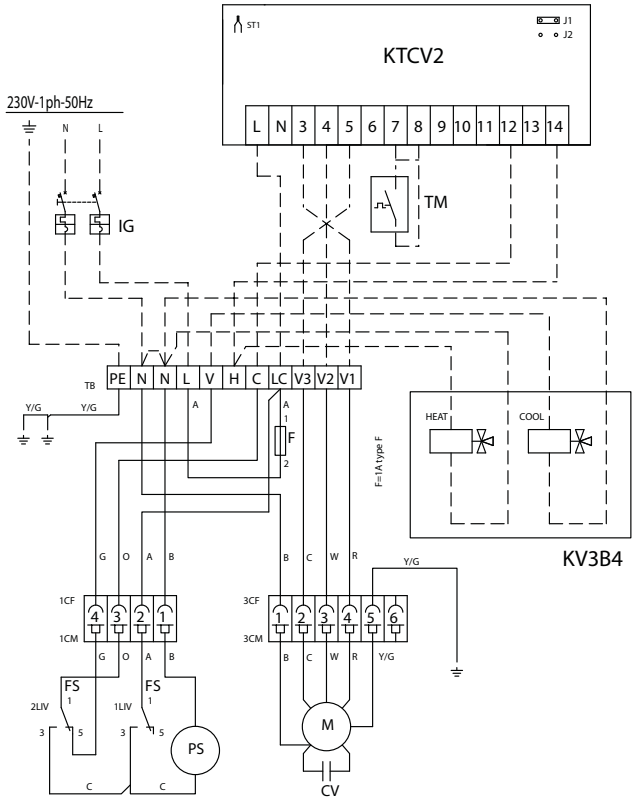
Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electrical resistance or 4-pipe systems, with the option of connecting the minimum thermostat externally. Wall mounted



(Dimensions 145 x 82 x40 mm)

UTNC-EV / UTNC-EV B4

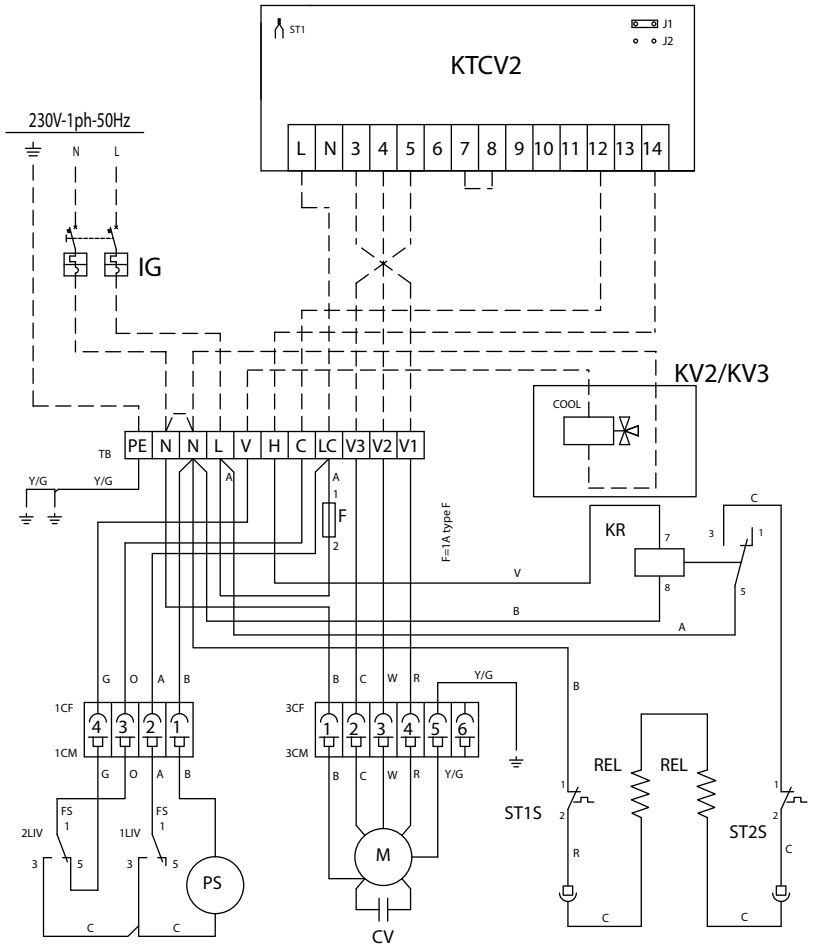




KTCV2	Control panel
IG	Automatic master switch
ST1	Air temperature probe
TM	Minimum thermostat
KV2/KV3	Hot/cold valve
KV2B4 **KV3B4**	Hot+cold valve
- - - -	The connection is to be set up by the installer

Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe
☼ Heating
❄ Cooling

UTNC-EV / UTNC-EV B4



KTCV2	Control panel
REL	Electric heater
KR	Electrical resistance relay
IG	Automatic master switch
ST1	Air temperature probe
ST1S	Electrical resistance safety thermostat 60°C
ST2S	Electrical resistance safety thermostat 100°C
KV2/KV3	Hot/cold valve
- - - -	The connection is to be set up by the installer

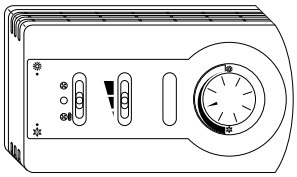
Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe
Do not fit the TM in the presence of the electrical resistance.

Heating

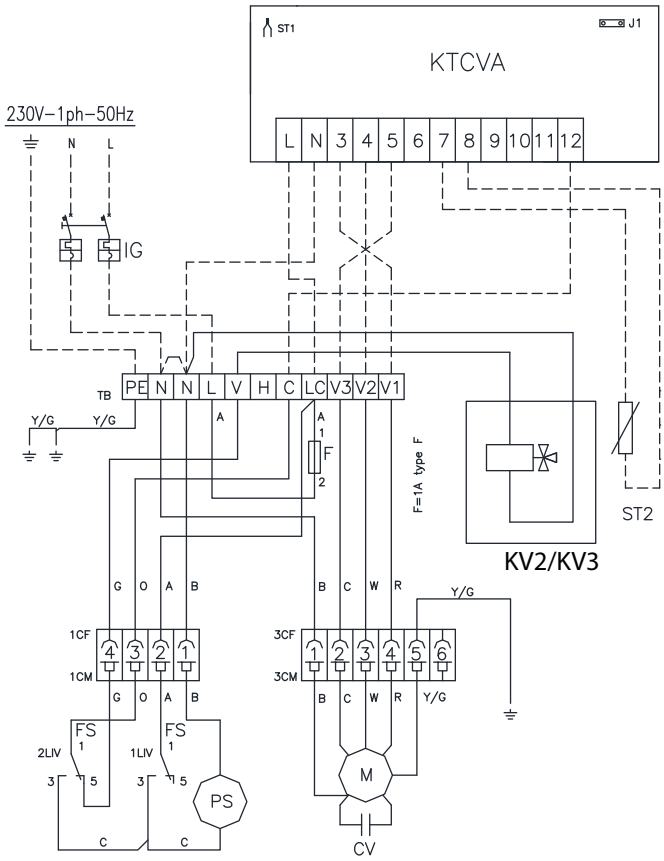
Cooling

KTCVA (supplied separately)

Electronic control panel including: continuous/off/thermostat ventilation switch; 3-speed switch; room thermostat; automatic summer/winter switch; heating/cooling red/green LED; auxiliary contact (230 Vac) to control the ON/OFF valve in 2-pipe systems. Minimum thermostat function. Wall mounted



(Dimensions 145 x 82 x40 mm)



KTCVA	Control panel
IG	Automatic master switch
ST1	Air temperature probe
ST2	Water temperature probe
KV2/KV3	Hot/cold valve
- - - -	The connection is to be set up by the installer

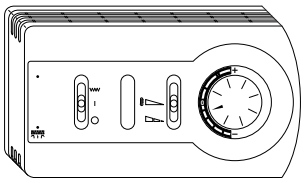
Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe
☼ Heating
❄ Cooling

The ST2 probe is included in the thermostat package.

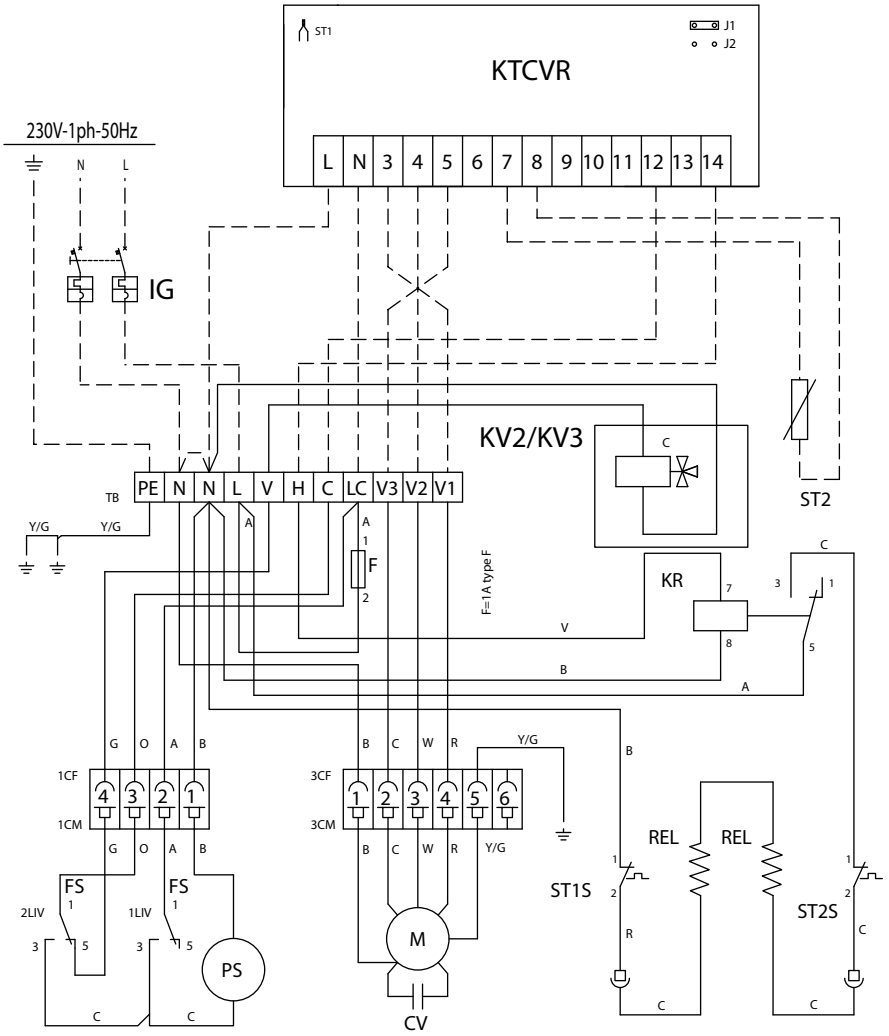
The ST2 water probe must be fitted upstream the ON/OFF valve if this is present.

KTCVR (supplied separately)

Electronic control panel including: on/off/electrical resistance switch; automatic summer/winter switch; automatic speed/minimum speed switch; ±5°C comfort adjustment knob; auxiliary contacts (230 Vac) to control the ON/OFF valve in 2-pipe systems, 2-pipe systems with electrical resistance or 4-pipe systems. Minimum thermostat function, destratification cycle and dirty filter signal. Wall mounted.



(Dimensions 145 x 82 x40 mm)



KTCVR	Control panel
REL	Electric heater
KR	Electrical resistance relay
IG	Automatic master switch
ST1	Air temperature probe
ST2	Water temperature probe
ST1S	Electrical resistance safety thermostat 60°C
ST2S	Electrical resistance safety thermostat 100°C
KV2/KV3	Hot/cold valve
- - - -	The connection is to be set up by the installer

Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe
Jumper J2 Closed = 4-pipe system
Jumper J2 Open = 2-pipe system (2 pipes + resistance)
☼ Heating
❄ Cooling

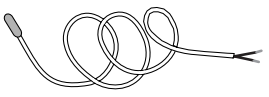
Do not fit the TM in the presence of the electrical resistance.

2-pipe system (2 pipes + REL) Jumper J2 open and ST2 water probe upstream the valve (if present).

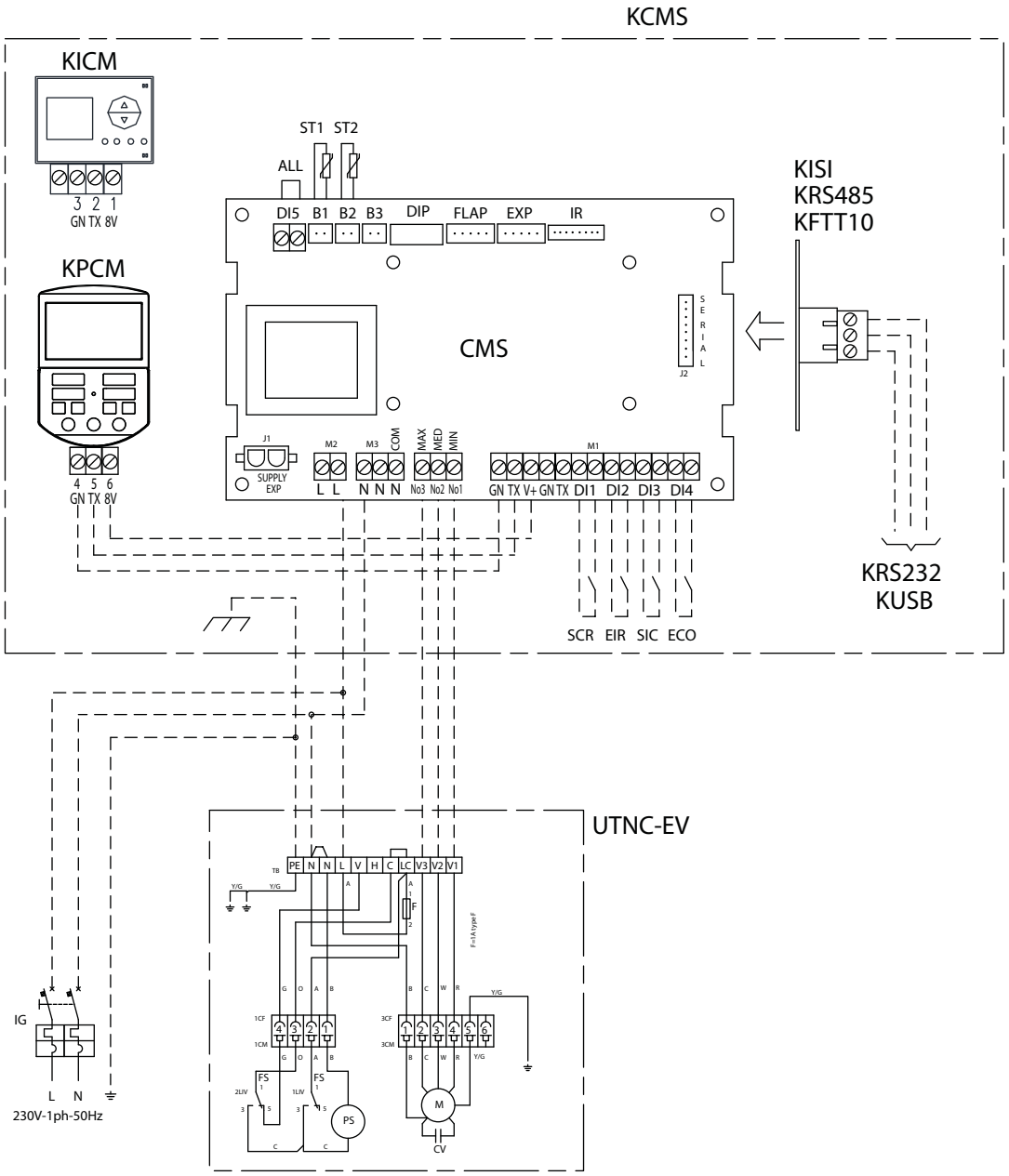
4-pipe system Jumper J2 closed and ST2 water probe downstream the hot valve (if present).

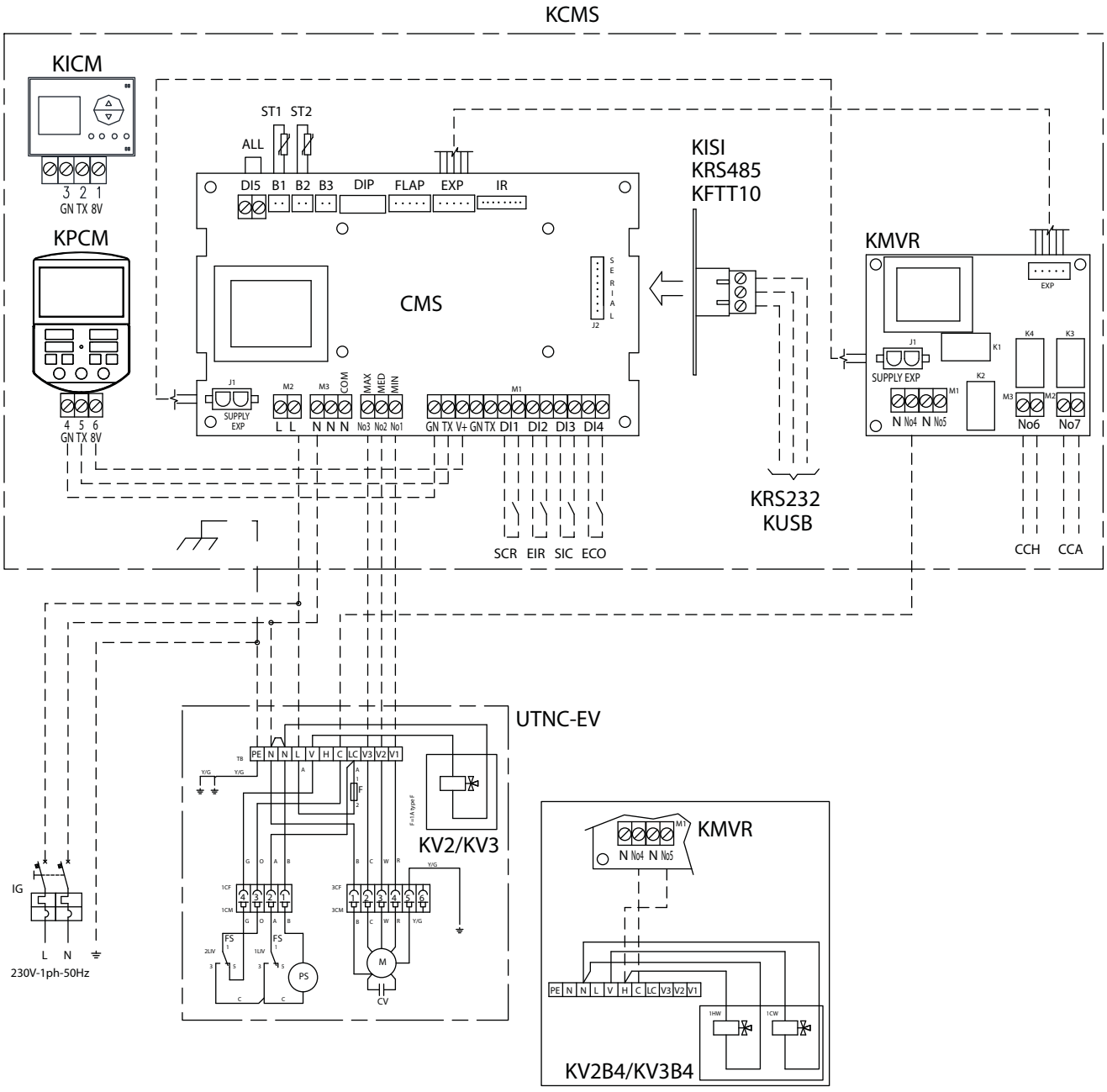
KSO (supplied separately)

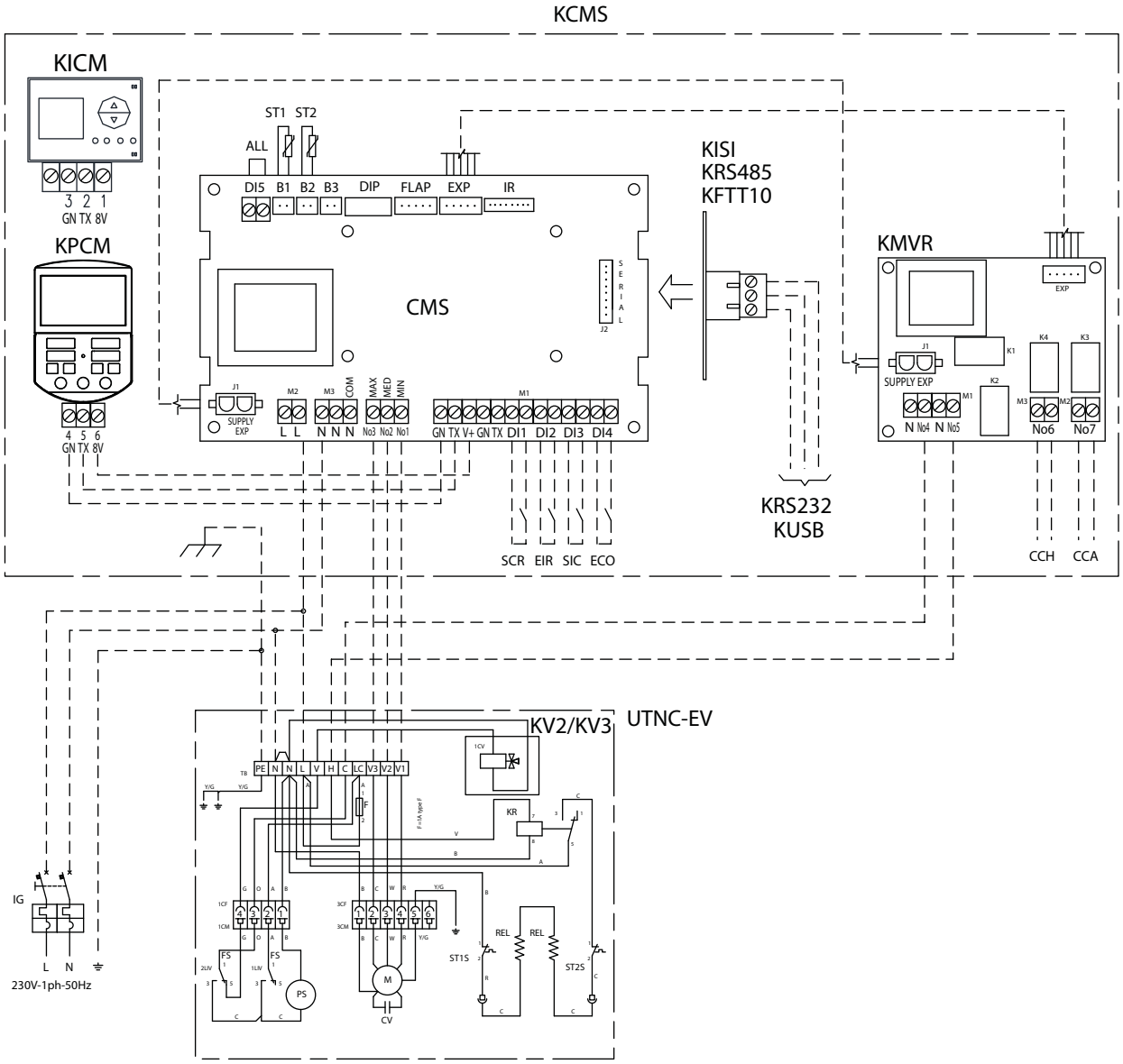
Air sensor with remote control option (2m) for KTCV2, KTCVA and KTCVR.



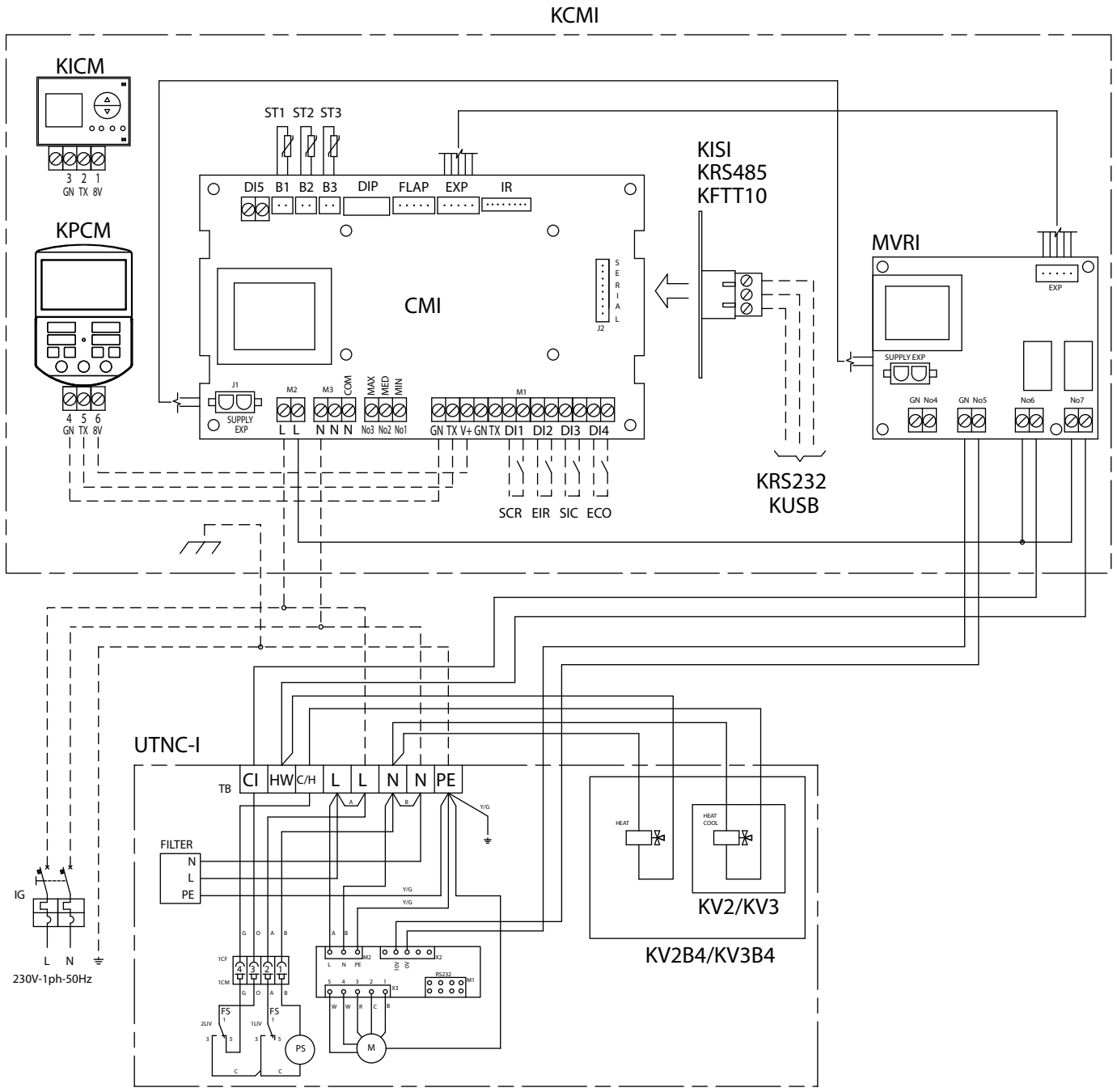
Electrical connection of advanced controls: KCMS + KPCM

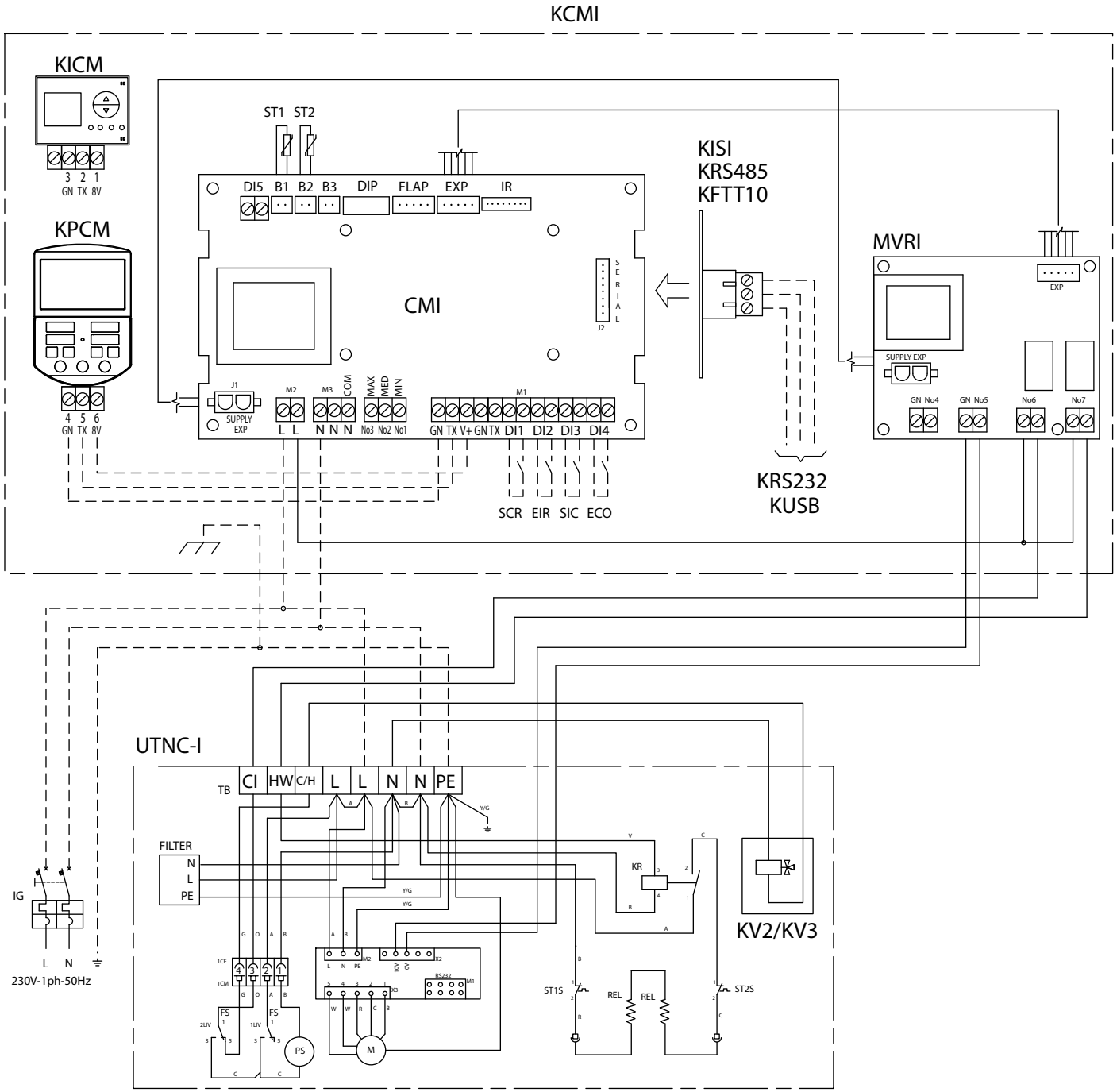



KCMS
KICM
3 2 1
GN TX 8V
KPCM
4 5 6
GN TX 8V
ST1 ST2
ALL
DI5 B1 B2 B3 DIP FLAP EXP IR
CMS
SERIAL
J2
J1
SUPPLY EXP
M2
M3
COM
MAX MED MIN
L L N N N No3 No2 No1
M1
GN TX V+ GN TX DI1 DI2 DI3 DI4
SCR EIR SIC ECO
KISI
KRS485
KFTT10
KRS232
KUSB
KMVR
EXP
J1
SUPPLY EXP
K1
K2
K3
K4
M1
M2
M3
N No4 N No5
No6 No7
CCH CCA
UTNC-EV
PE N N L V H C LC V3 V2 V1
TB
Y/G Y/G
A
F
F=1A type F
KV2/KV3
G O A B
B C W R
Y/G
1CF
1CM
3CF
3CM
FS
2LIV
1LIV
PS
M
CV
IG
L N
230V-1ph-50Hz
KMVR
M1
N No4 N No5
PE N N L V H C LC V3 V2 V1
1HW
1CW
KV2B4/KV3B4


KCMS
KICM
3 2 1
GN TX 8V
KPCM
4 5 6
GN TX 8V
ST1 ST2
ALL
DI5 B1 B2 B3 DIP FLAP EXP IR
CMS
SERIAL
J2
J1
SUPPLY EXP
M2
L L
M3
N N N
COM
MAX
MED
MIN
No3 No2 No1
M1
GN TX V+ GN TX DI1 DI2 DI3 DI4
SCR EIR SIC ECO
KISI
KRS485
KFTT10
KRS232
KUSB
KMVR
EXP
J1
SUPPLY EXP
K1
K2
K3
K4
M1
M2
M3
N No4 N No5
No6
No7
CCH
CCA
KV2/KV3
UTNC-EV
PE N N L V H C LC V3 V2 V1
T8
Y/G Y/G
1CV
KR
1CF
1CM
3CF
3CM
FS
FS
2LV
1LV
PS
M
CV
REL
REL
ST1S
ST2S
IG
L N
230V-1ph-50Hz

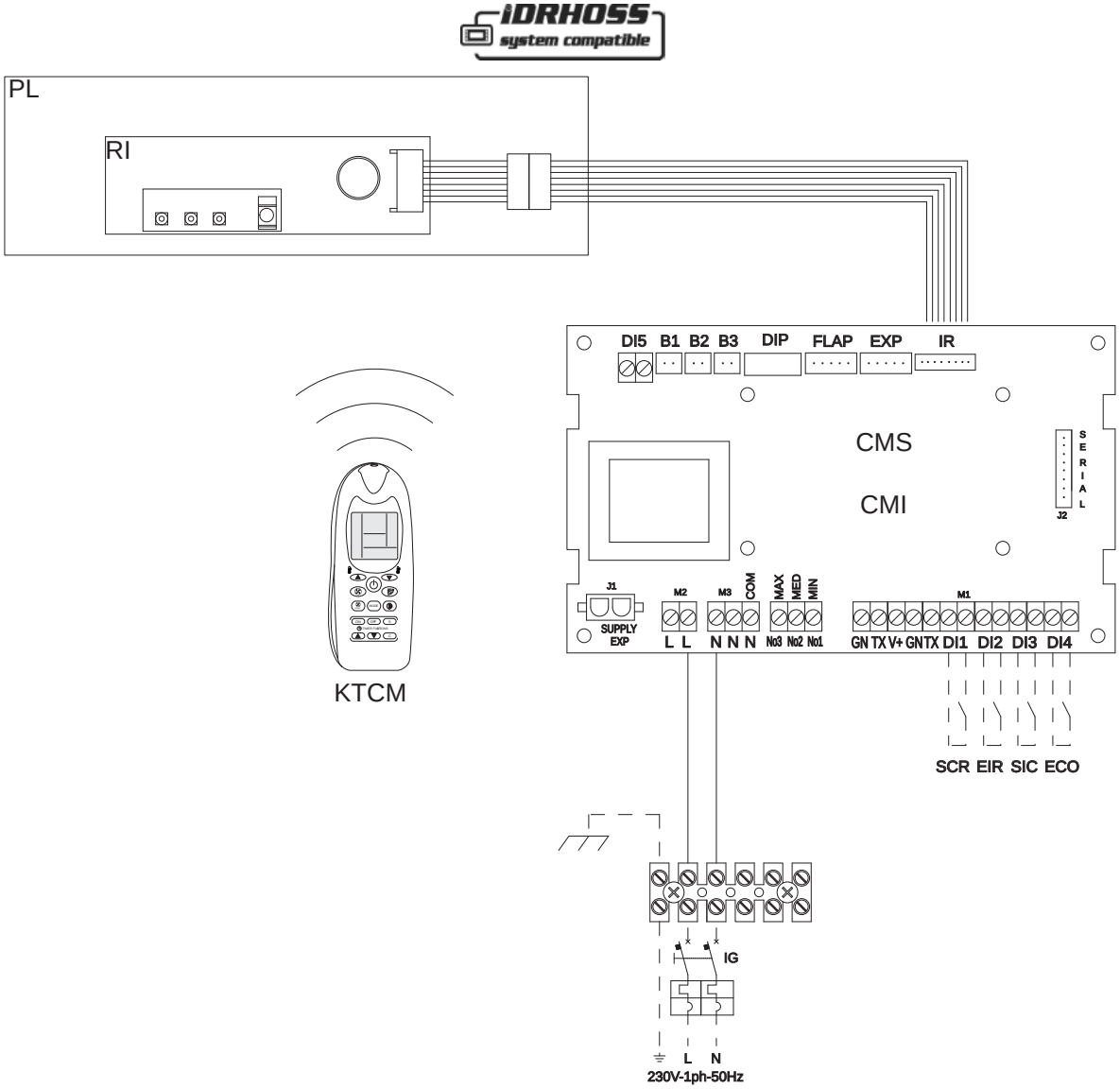
UTNC-I 26÷111


KCMI
KICM
3 2 1
GN TX 8V
KPCM
4 5 6
GN TX 8V
ST1 ST2 ST3
DI5 B1 B2 B3 DIP FLAP EXP IR
CMI
SERIAL
J2
J1
SUPPLY EXP
M2
M3
COM
MAX
MED
MIN
No3 No2 No1
M1
L L N N N GN TX V+ GN TX DI1 DI2 DI3 DI4
SCR EIR SIC ECO
KISI
KRS485
KFTT10
KRS232
KUSB
MVRI
EXP
SUPPLY EXP
GN No4
GN No5
No6
No7
UTNC-I
TB
CI HW C/H L L N N PE
FILTER
N
L
PE
IG
L N
230V-1ph-50Hz
HEAT
HEAT COOL
KV2/KV3
KV2B4/KV3B4
Y/G
FS
PS
M


KCMI
KICM
3 2 1
GN TX 8V
KPCM
4 5 6
GN TX 8V
ST1 ST2
DI5 B1 B2 B3 DIP FLAP EXP IR
CMI
SERIAL
J2
J1
SUPPLY EXP
M2
M3
COM
MAX MED MIN
M1
L L N N N No3 No2 No1
GN TX V+ GN TX DI1 DI2 DI3 DI4
SCR EIR SIC ECO
KISI
KRS485
KFTT10
KRS232
KUSB
MVRI
EXP
SUPPLY EXP
GN No4 GN No5 No6 No7
UTNC-I
TB
CI HW C/H L L N N PE
FILTER
N
L
PE
IG
L N
230V-1ph-50Hz
KR
KV2/KV3
ST1S
REL
REL
ST2S
PS
M
RS232

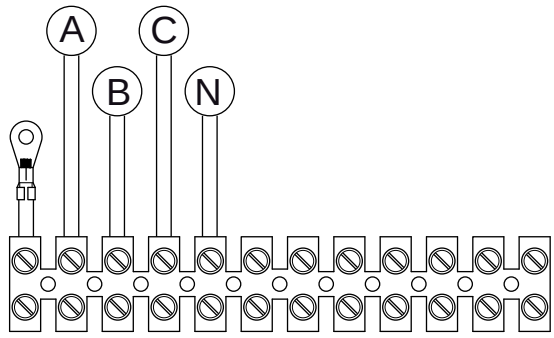
KCMS/KCMI	Electronic control
CMI	Electronic control
KPCM/KICM	Control panel
IG	Master Switch
REL	Electric heater
ALL	Alarm inlet
L	Line
N	Neutral
SCR	Remote control selector
SIC	Outdoor safety
EIR	Remote summer/winter selector
ECO	Economy function selector
CCA	Boiler room thermostat (consent)
CCH	Chiller consent
ST1	Air temperature probe
ST2	Water temperature probe
ST3	Water temperature probe (KSTI accessory)
ST1S	Electrical resistance safety thermostat 60°C
ST2S	Electrical resistance safety thermostat 100°C
KMVR/MVRI	Valve-resistance module
KISI	Can-bus serial interface module
KRS485	RS485 serial interface module
KFTT10	LON serial interface module
KV2 KV3	Hot/cold valve accessory
KV2B4-KV3B4	Hot + cold valve accessory
KRS232	RS485-RS232 converter
KUSB	RS485-USB converter
- - -	The installer is responsible for the connections

Electrical connection of advanced controls: KCMS + KTCM



CMS/CMI	Electronic control
KTCM	Remote control (supplied separately)
PL	Frame
IG	Master Switch
RI	Receiver board
L	Line
N	Neutral
SCR	Remote control selector
SIC	Outdoor safety
EIR	Remote summer/winter selector
ECO	Economy function selector
ALL	Alarm inlet
- - - -	The installer is responsible for the connections

UTNB connection

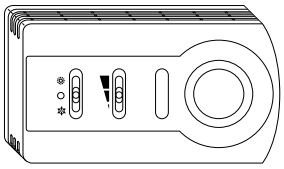


UTNB	Max (A)	Med (B)	Min (C)	Common (N)
011	Brown	Red	White	Blue
014	Purple	Orange	Brown	Blue
017	Grey	Purple	Orange	Blue

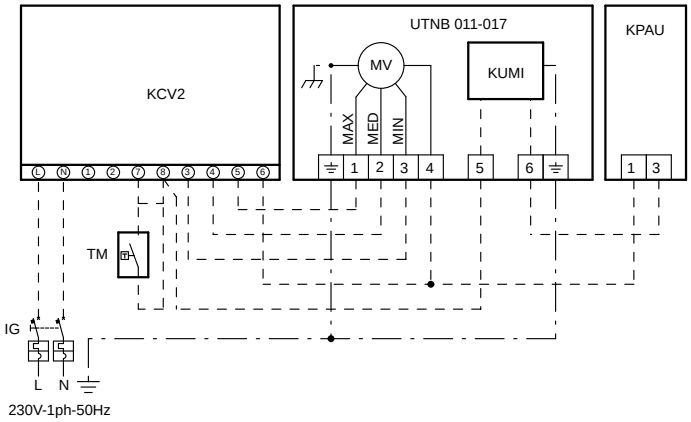
Electrical connection of standard controls

KCV2 (supplied separately)

Panel with 3-speed switch complete with the summer/off/winter switch with the option of connecting the minimum thermostat externally. Wall mounted.



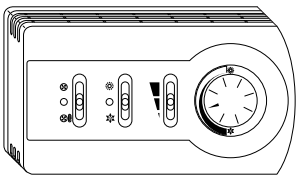
(Dimensions 145 x 82 x40 mm)



UTNB	Base unit
KTCV2	Control panel
KPAU	Humidistat panel
KUMI	Humidifier
IG	Master Switch
TM	Minimum thermostat
- - - -	The connection is to be set up by the installer

KTCV2 (supplied separately)

Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electrical resistance (KBAE) or 4-pipe systems, with the option of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x40 mm)

UTNB	Base unit
KTCV2	Control panel
KPAU	Humidistat panel
KUMI	Humidifier
KBAE	Electric coil module
IG	Master Switch
EV	Summer/winter electrovalve
EV1	Summer electrovalve
EV2	Winter electrovalve
TM	Minimum thermostat
ST2	Water temperature probe
SL1	Resistance ON/OFF selector
RES	Electric heater
- - - -	The connection is to be set up by the installer

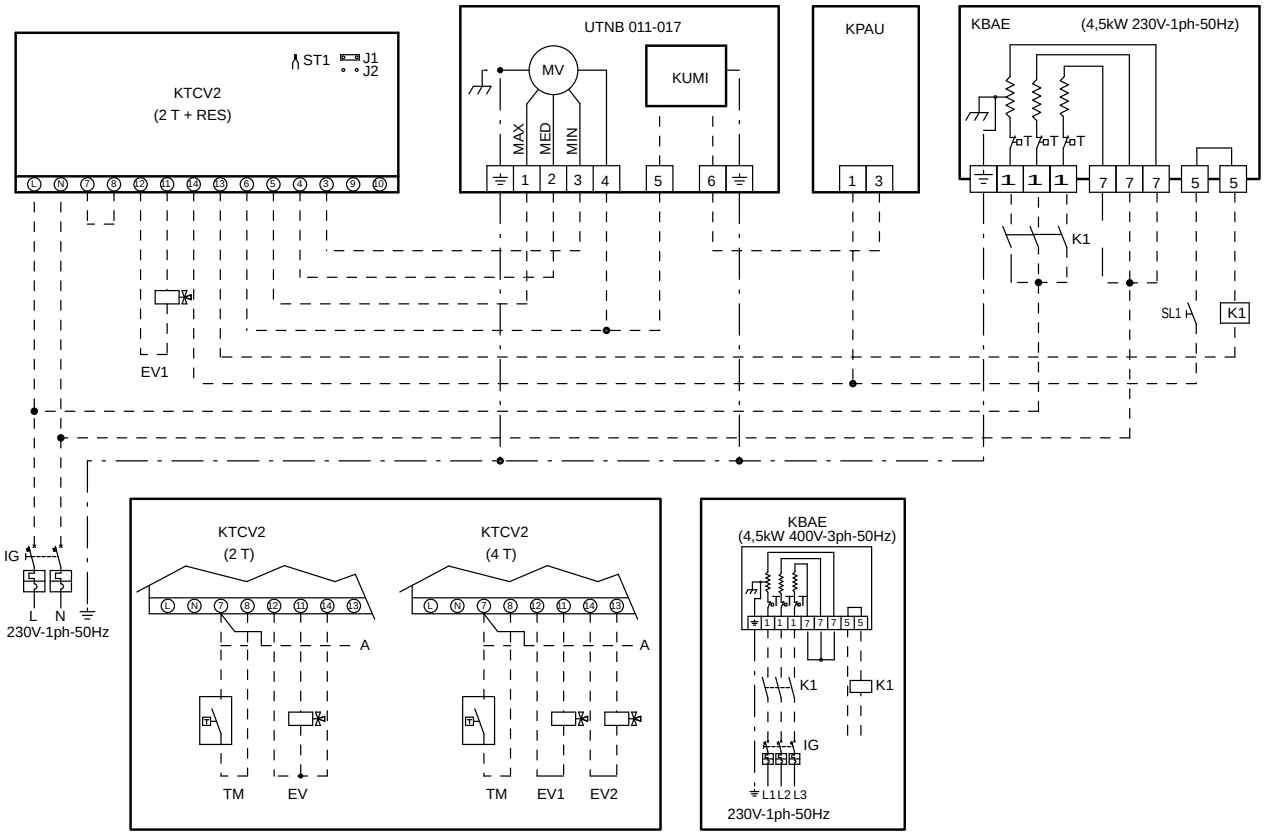
Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe

With the TM fitted, terminal 1 of the KPAU must be connected to terminal 7 of the KTCV2

"A" must be connected to terminal 1 of the KPAU

Do not fit the TM in the presence of the KBAE

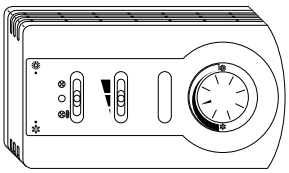
KBAE 230V-1ph-50Hz – (1.5 – 3 – 4.5 Kw)
KBAE 400V-3ph-50Hz – (4.5 Kw)



2T = 2 pipes
4T = 4 pipes

KTCVA (supplied separately)

Electronic control panel including: continuous/off/thermostat ventilation switch; 3-speed switch; room thermostat; automatic summer/winter switch; heating/cooling red/green LED; auxiliary contact (230 Vac) to control the ON/OFF valve in 2-pipe systems. Minimum thermostat function. Wall mounted.



(Dimensions 145 x 82 x40 mm)

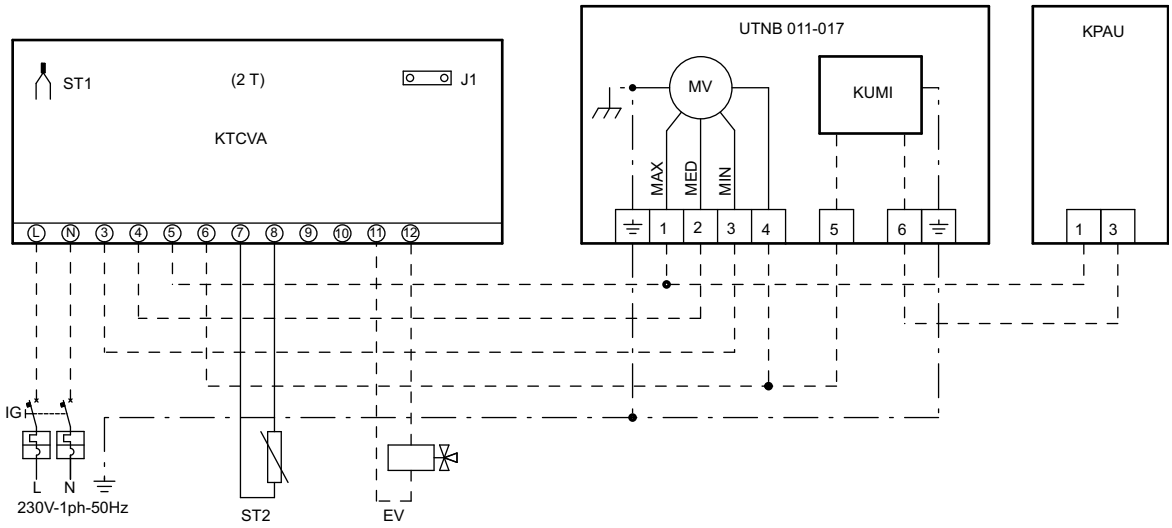
UTNB	Base unit
KTCVA	Control panel
KPAU	Humidistat panel
KUMI	Humidifier
KBAE	Electric coil module
IG	Master Switch
EV	Summer/winter electroval ve
- - - -	The connection is to be set up by the installer

Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe

The ST2 probe is included in the thermostat package

The ST2 water probe must be fitted upstream the ON/OFF valve if this is present

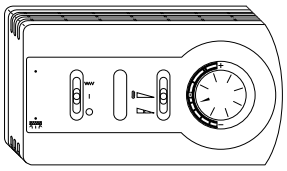
KUMI only enabled at the maximum speed



2T = 2 pipes

KTCVR (supplied separately)

Electronic control panel including: on/off/electrical resistance switch; automatic summer/winter switch; automatic speed/minimum speed switch; ±5°C comfort adjustment knob; auxiliary contacts (230 Vac) to control the ON/OFF valve in 2-pipe systems, 2-pipe systems with electrical resistance (KBAE) or 4-pipe systems. Minimum thermostat function, destratification cycle and dirty filter signal. Wall mounted.



(Dimensions 145 x 82 x40 mm)

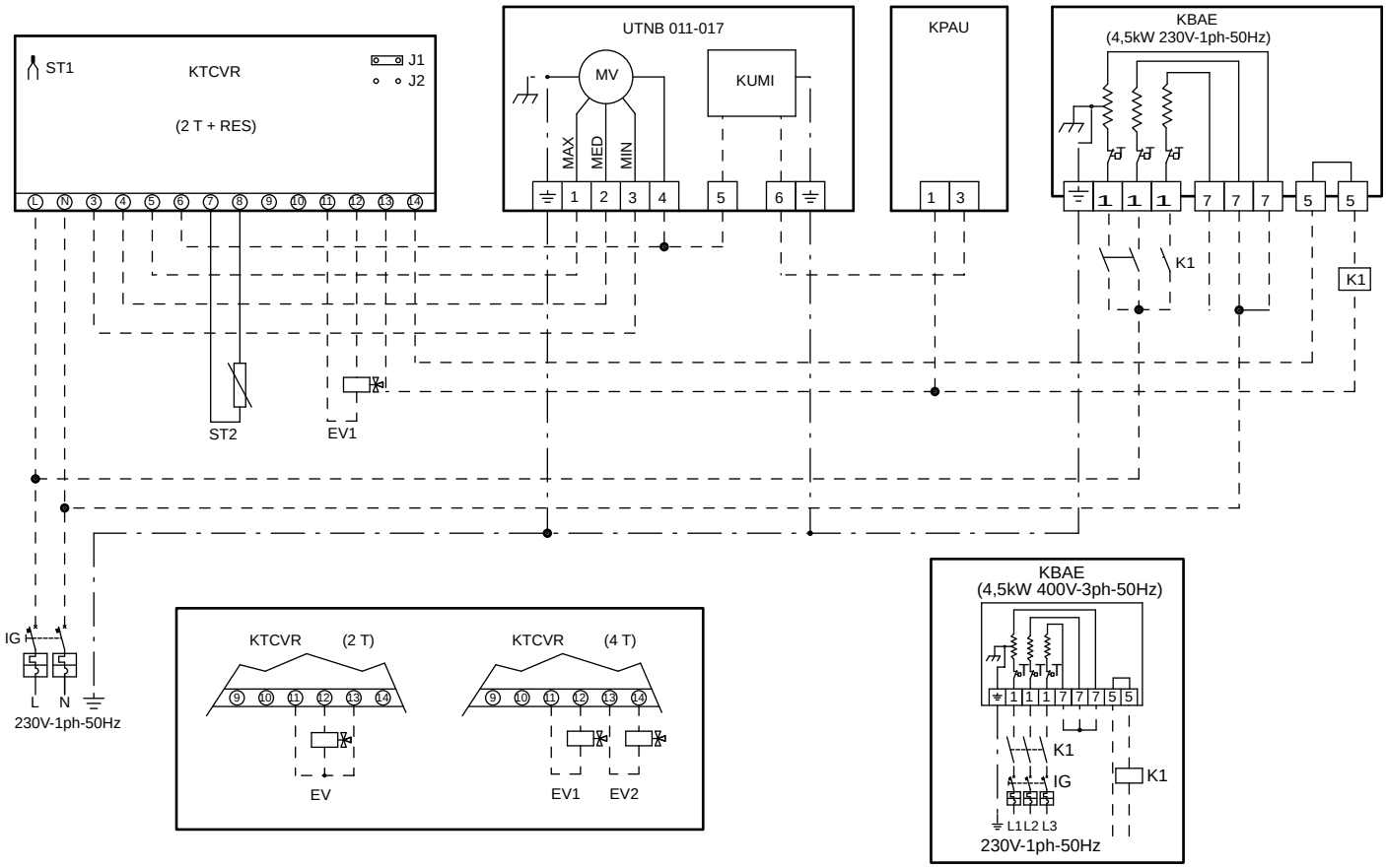
UTNB	Base unit
KTCVR	Control panel
KPAU	Humidistat panel
KUMI	Humidifier
KBAE	Electric coil module
IG	Master Switch
EV1	Summer electrovalve
EV2	Winter electrovalve
ST1	Air temperature probe
ST2	Water temperature probe
- - - -	The connection is to be set up by the installer

Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe
Jumper J2 Closed = 4-pipe system
Jumper J2 Open = 2-pipe system (2 pipes + resistance)

The ST2 probe is included in the thermostat package

2-pipe system (2 pipes + RE) Jumper J2 Open and ST2 water probe upstream the valve (if present)

4-pipe system Jumper J2 Closed and ST2 water probe placed on the hot coil (with or without the valve)



2T = 2 pipes
2T + RES = 2 pipes + resistance

Electrical connection of advanced controls

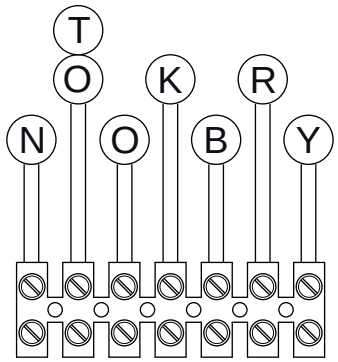
COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black

KCMS – Electronic control
KPCM – Control panel
IG – Master Switch
L – Line
N – Neutral
SCR – Remote control selector
SIC – Outdoor safety
EIR – Summer/winter remote selector
ECO – Economy function selector
CCH – Chiller consent
CCA – Boiler consent
ST1 – Air temperature probe
ST2 – Water temperature probe
ST3 – Water temperature probe (KSTI accessory)
KMVR – Valve-resistance module
KISI – Can-bus serial interface module
KRS485 – RS485 serial interface module
KRS232 – RS485-RS232 converter
KUSB – RS485-USB converter
V1 – Cold valve
V2 – Hot valve
V12 – Hot/cold valve
MV – Fan motor
KBAE – Electrical resistance module
KUMI – Humidifier module
KPAU – Humidistat panel
REL – Electrical resistance
TSR – Electrical resistance safety thermostat
PRV – Steam producer
K1 – Electrical resistance relay
- - - - The installer is responsible for the connections

UTNA

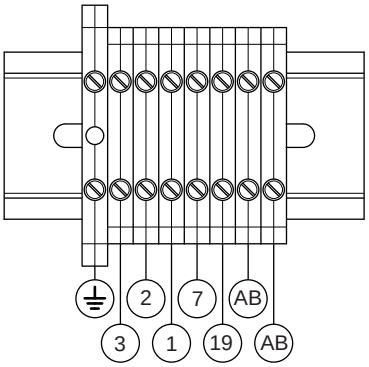
UTNA connection

UTNA 015÷038



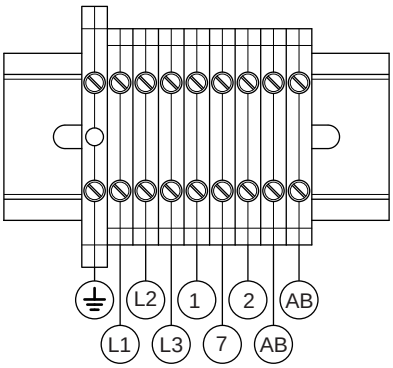
N	Brown	
O-T	Orange – White	
O	Orange	Common
K	Black	Maximum speed
B	Blue	Medium speed
R	Red	Minimum speed
Y	Yellow/Green	

UTNA 015÷038 (KQE Accessory)



1	Maximum speed
2	Medium speed
3	Minimum speed
7	Common
19	Humidistat relay
AB-AB	Humidistat consent

UTNA 051
UTNA 078÷150 4P
UTNA 078÷150 4/6P – 4/8P

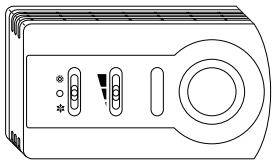


L1	Line 1
L2	Line 2
L3	Line 3
1	Maximum speed
7	Common
2	Minimum speed
AB-AB	Humidistat consent

Electrical connection of standard controls

KCV2 (supplied separately)

Panel with 3-speed switch complete with the summer/off/winter switch with the option of connecting the minimum thermostat externally. Wall mounted.



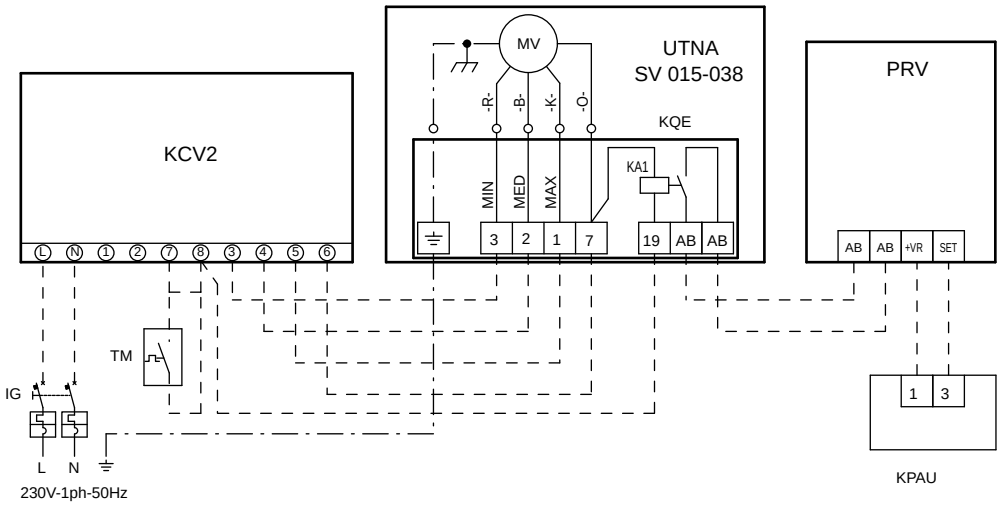
(Dimensions 145 x 82 x40 mm)

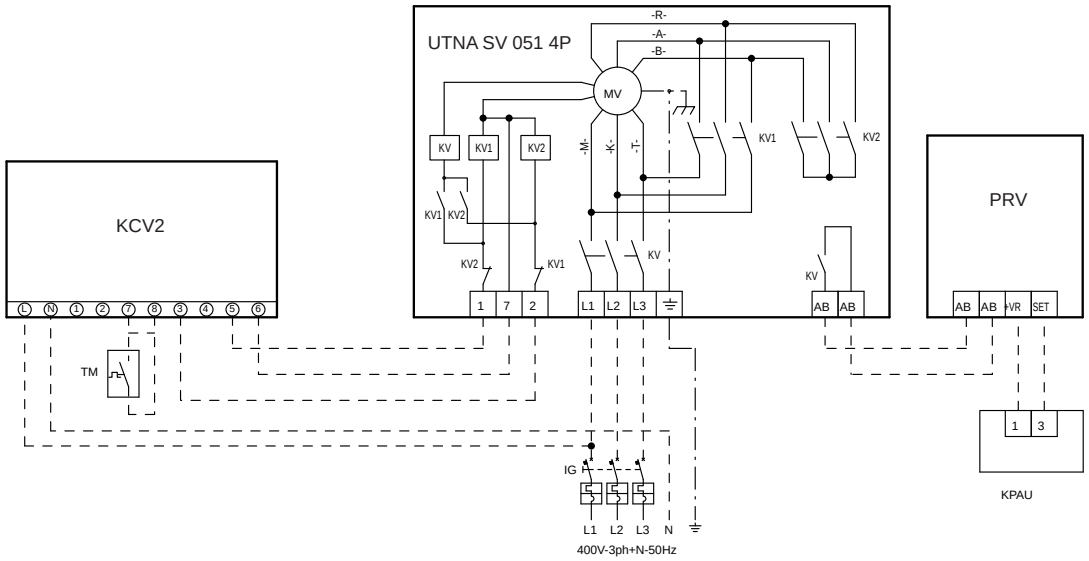
UTNA	Base unit
KCV2	Control panel
SV	Fan module
KQE	Electrical panel
PRV	Steam producer
KPAU	Humidistat panel
IG	Master Switch
TM	Minimum thermostat
- - - -	The connection is to be set up by the installer

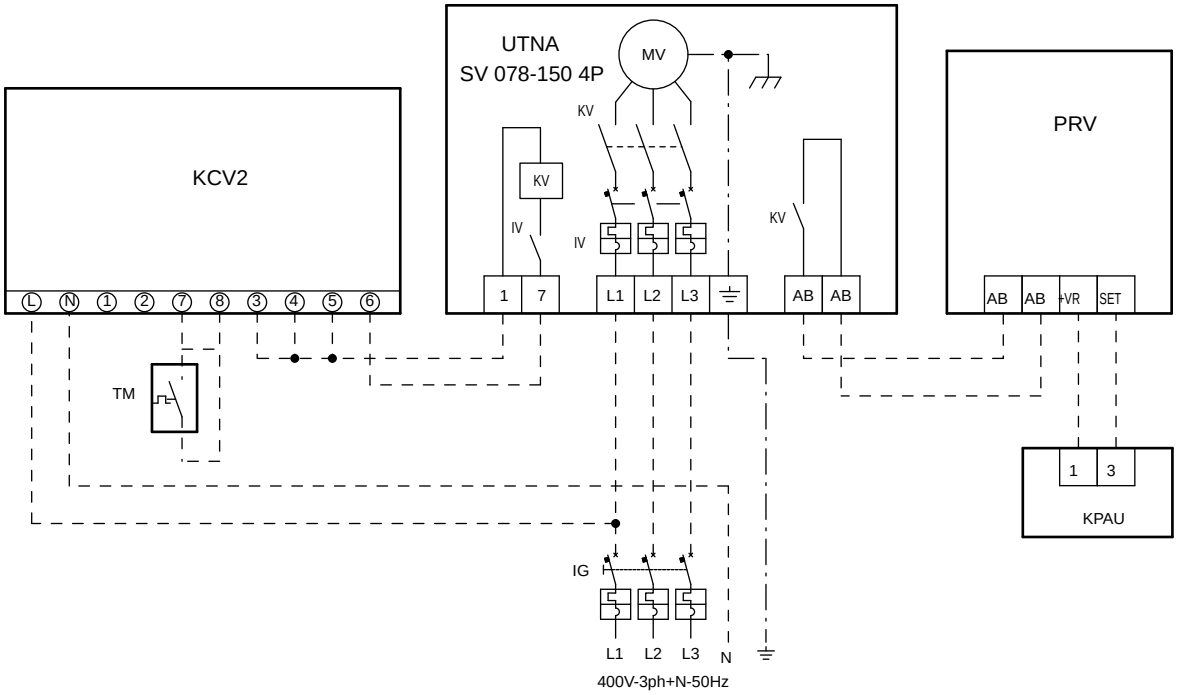
Notes: Refer to the User Instructions in the KIT for the electrical connection.

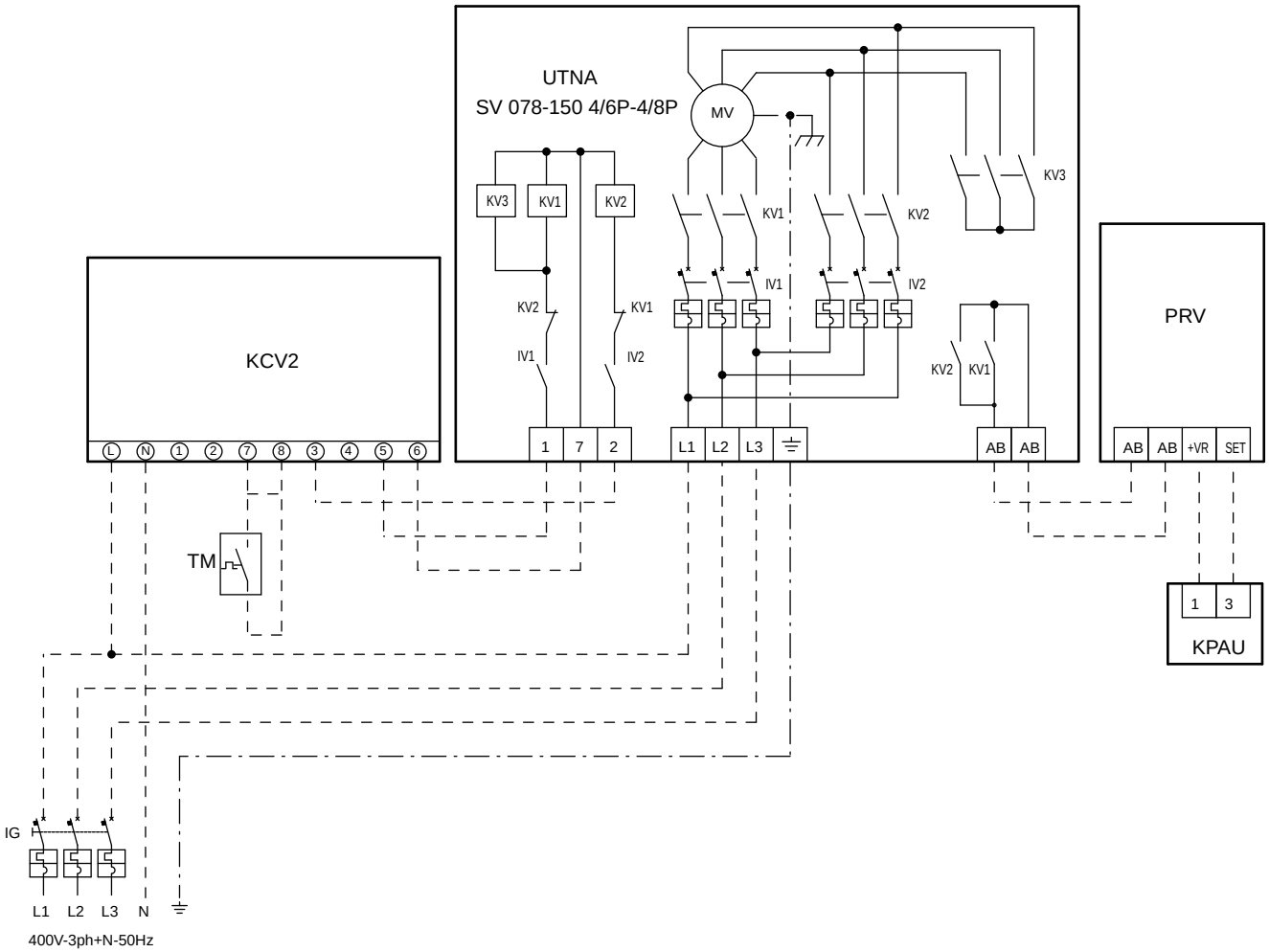
KV3 only present in the 4/8 pole version.

- T -	White
- A -	Grey
- M -	Brown
- B -	Blue
- R -	Red
- K -	Black
- O -	Orange



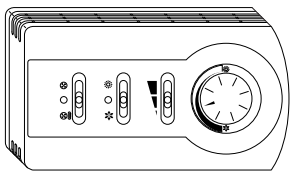



UTNA
SV 078-150 4P
MV
KV
IV
KCV2
PRV
L N 1 2 7 8 3 4 5 6
1 7
L1 L2 L3
AB AB
AB AB +VR SET
TM
1 3
KPAU
IG
L1 L2 L3 N
400V-3ph+N-50Hz


UTNA
SV 078-150 4/6P-4/8P
MV
KV3
KV1
KV2
IV1
IV2
KCV2
PRV
L N 1 2 7 8 3 4 5 6
1 7 2
L1 L2 L3
AB AB
AB AB +VR SET
TM
1 3
KPAU
IG
L1 L2 L3 N
400V-3ph+N-50Hz

KTCV2 (supplied separately)

Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electrical resistance (KR) or 4-pipe systems, with the option of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x40 mm)

UTNA	Base unit
KCV2	Control panel
SV	Fan module
KQE	Electrical panel
PRV	Steam producer
KPAU	Humidistat panel
IG	Master Switch
EV	Summer-winter electrovalve
EV1	Summer electrovalve
EV2	Winter electrovalve
TM	Minimum thermostat
ST1	Air temperature probe
ST2	Water temperature probe
SL1	Resistance ON/OFF selector
- - - -	The connection is to be set up by the installer

Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe

With KR + TM, fit a bipolar SL1

KR also available in the 3-phase 400 V version

Only for 038 - KR 12 kW also in the 2-stage 3-phase 400V version.

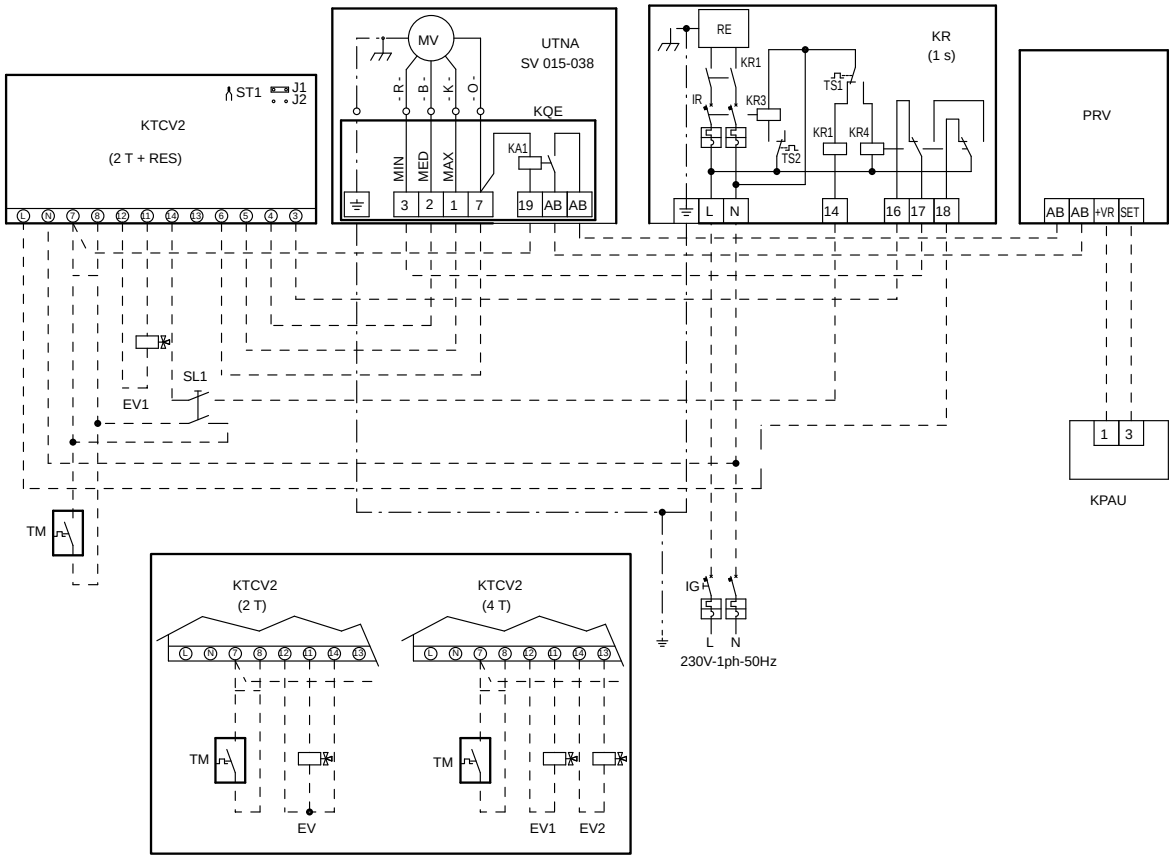
Refer to the User Instructions in the KIT for the electrical connection.

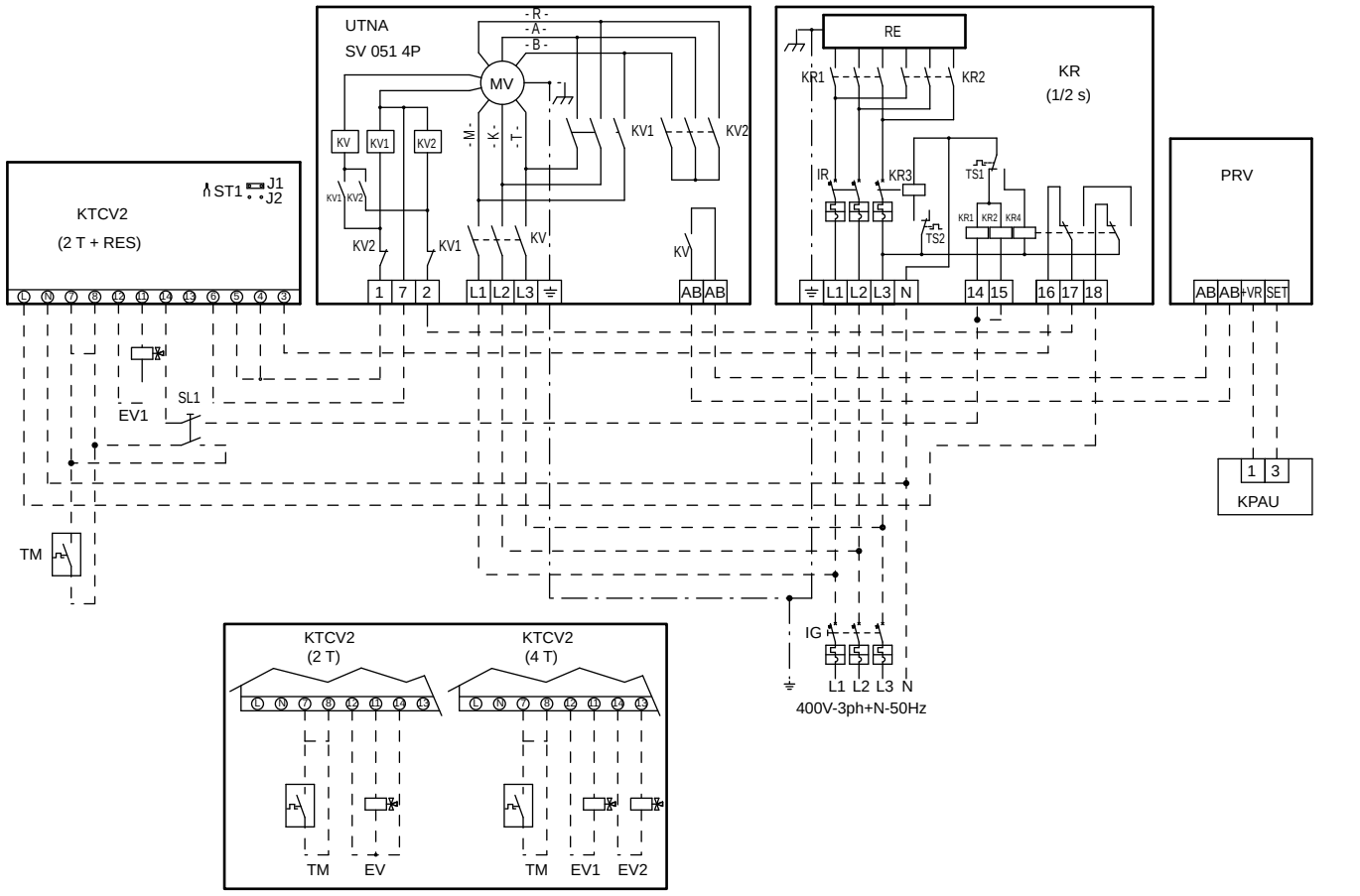
KR 9 kW 1-stage - KR 12-18 kW 2-stage.

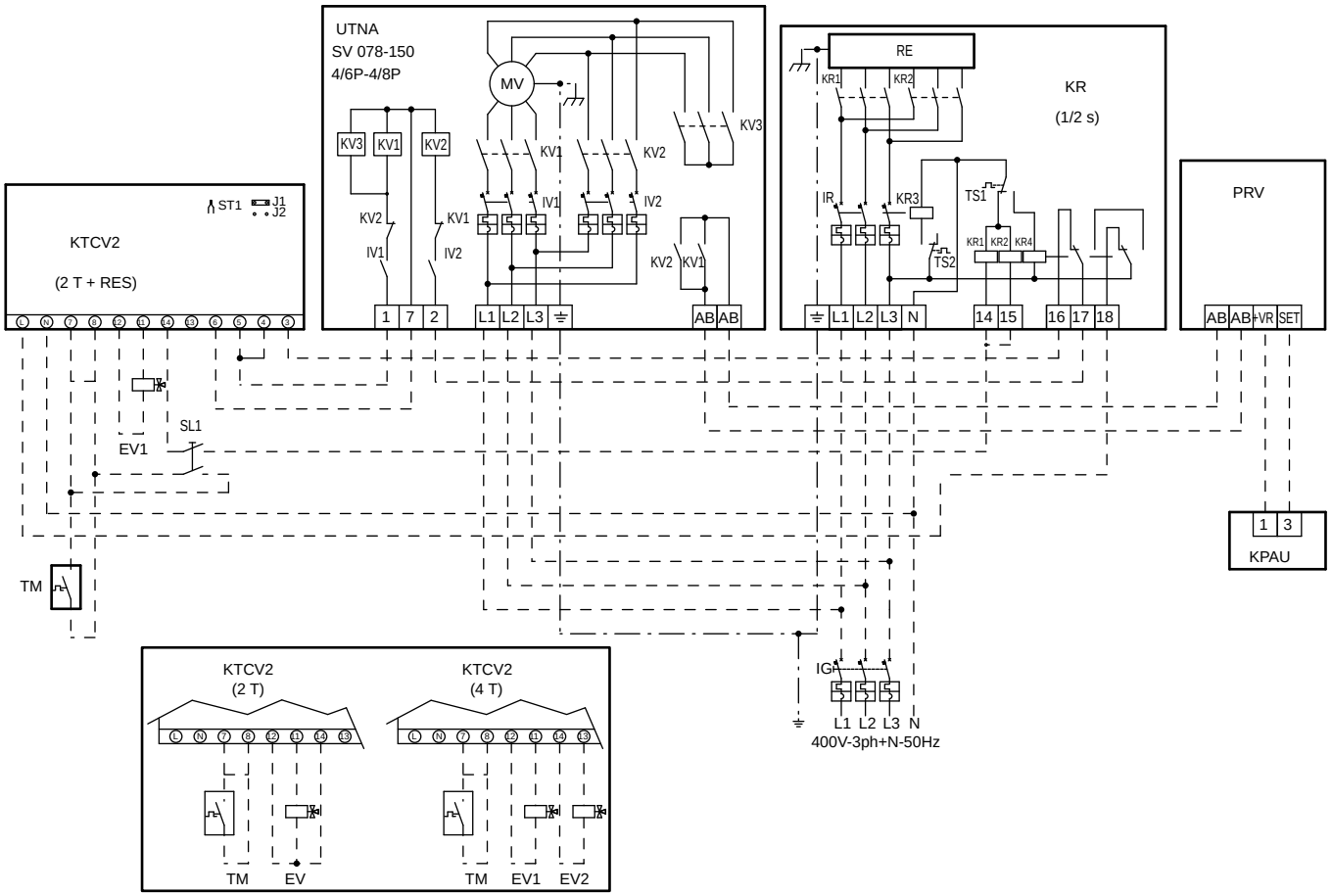
For 2-stage KR - terminal 14 for 1st stage - terminal 15 for 2nd stage.

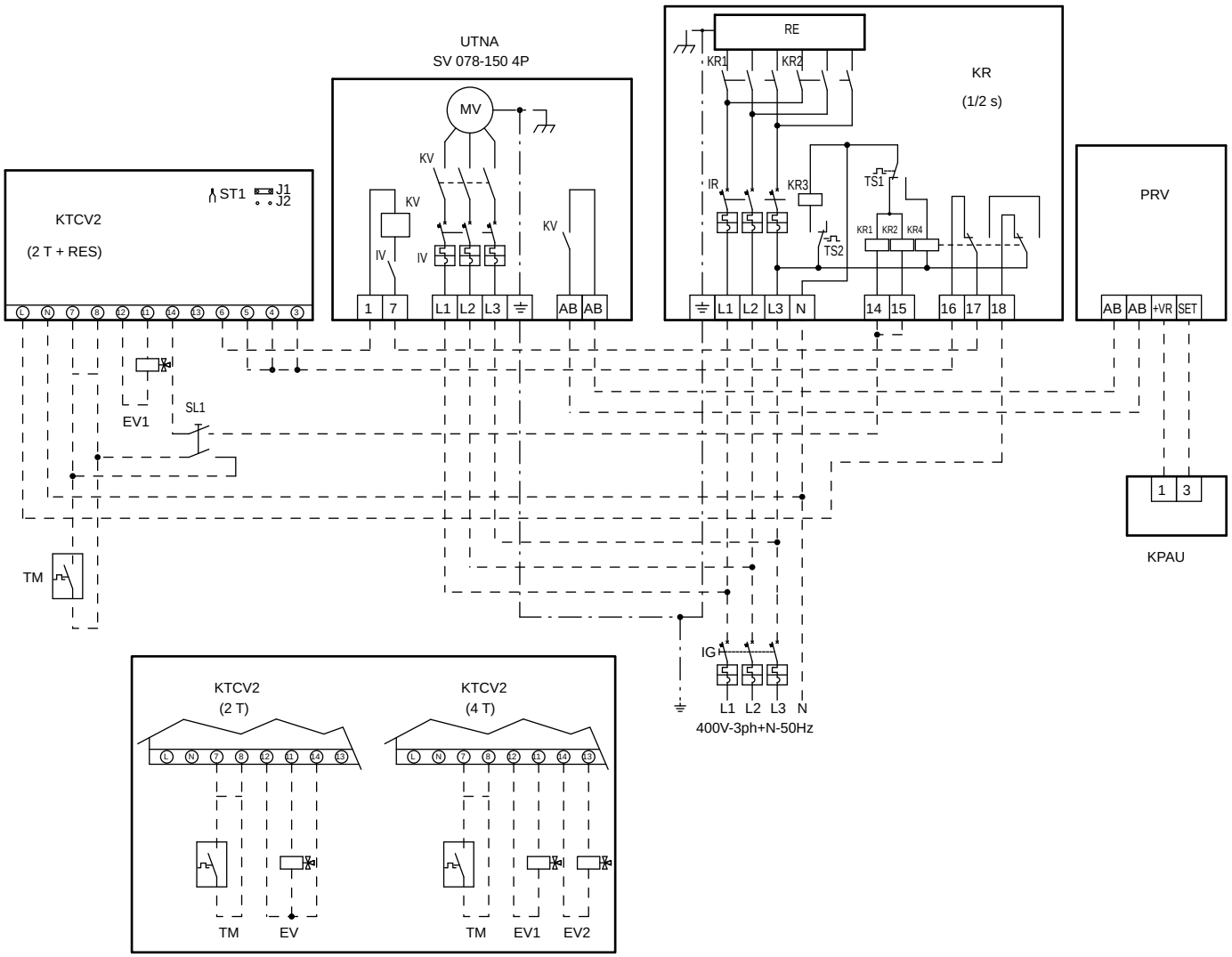
KV3 only present in the 4/8 pole version.

- T -	White
- A -	Grey
- M -	Brown
- B -	Blue
- R -	Red
- K -	Black
- O -	Orange



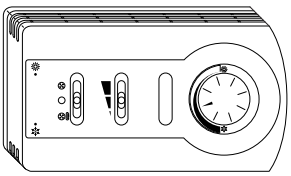

UTNA
SV 051 4P
MV
KV
KV1
KV2
KTCV2
(2 T + RES)
ST1
J1
J2
RE
KR1
KR2
KR
(1/2 s)
IR
KR3
TS1
TS2
KR4
PRV
AB
+VR
SET
SL1
EV1
TM
KPAU
1
3
IG
L1 L2 L3 N
400V-3ph+N-50Hz
KTCV2
(2 T)
KTCV2
(4 T)
EV
EV1
EV2


UTNA
SV 078-150
4/6P-4/8P
MV
KV3
KV1
KV2
IV1
IV2
KTCV2
(2 T + RES)
ST1
J1
J2
RE
KR1
KR2
KR
(1/2 s)
IR
KR3
TS1
TS2
KR4
PRV
AB
+VR
SET
SL1
EV1
TM
KPAU
1
3
IG
L1 L2 L3 N
400V-3ph+N-50Hz
KTCV2
(2 T)
KTCV2
(4 T)
EV
EV1
EV2


UTNA
SV 078-150 4P
MV
KV
IV
1
7
L1
L2
L3
AB
AB
RE
KR1
KR2
KR
(1/2 s)
IR
KR3
TS1
TS2
KR1
KR2
KR4
14
15
16
17
18
PRV
AB
AB
+VR
SET
KTCV2
(2 T + RES)
ST1
J1
J2
L
N
7
8
12
11
14
13
6
5
4
3
EV1
SL1
TM
1
3
KPAU
IG
L1
L2
L3
N
400V-3ph+N-50Hz
KTCV2
(2 T)
KTCV2
(4 T)
TM
EV
TM
EV1
EV2

KTCVA (supplied separately)

Electronic control panel including: continuous/off/thermostat ventilation switch; 3-speed switch; room thermostat; automatic summer/winter switch; heating/cooling red/green LED; auxiliary contact (230 Vac) to control the ON/OFF valve in 2-pipe systems. Minimum thermostat function. Wall mounted.

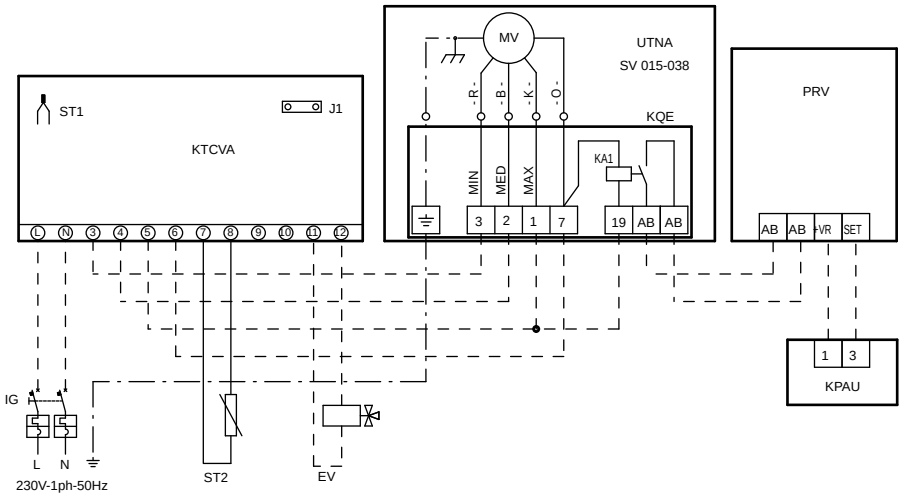


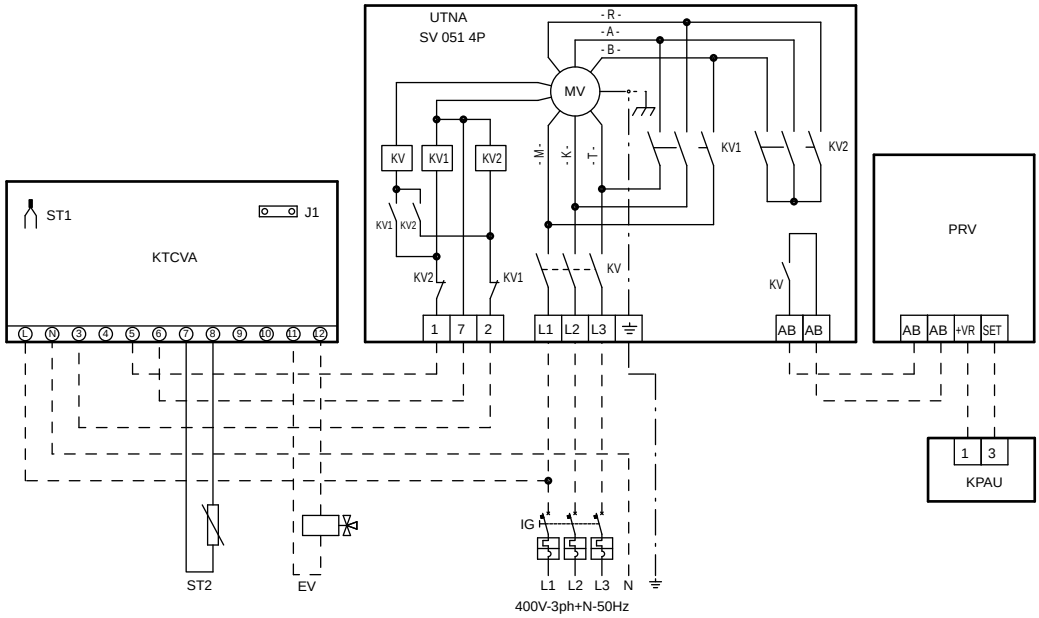
(Dimensions 145 x 82 x40 mm)

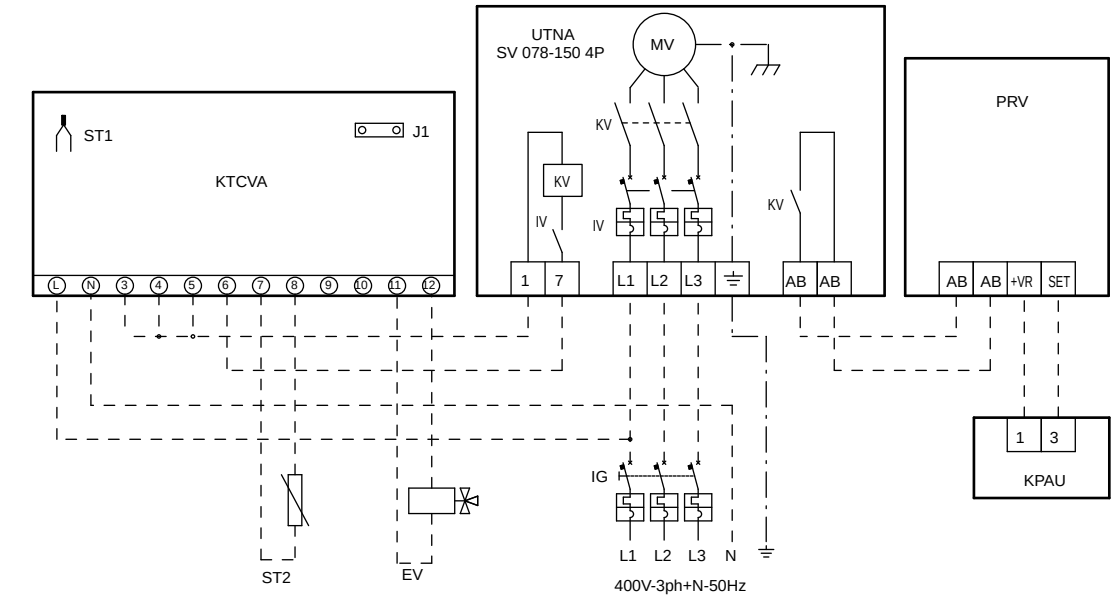
UTNA	Base unit
KCVA	Control panel
SV	Fan module
KQE	Electrical panel
PRV	Steam producer
KPAU	Humidistat panel
IG	Master Switch
EV	Electrovalve
TM	Minimum thermostat
ST1	Air temperature probe
ST2	Water temperature probe
- - - -	The connection is to be set up by the installer

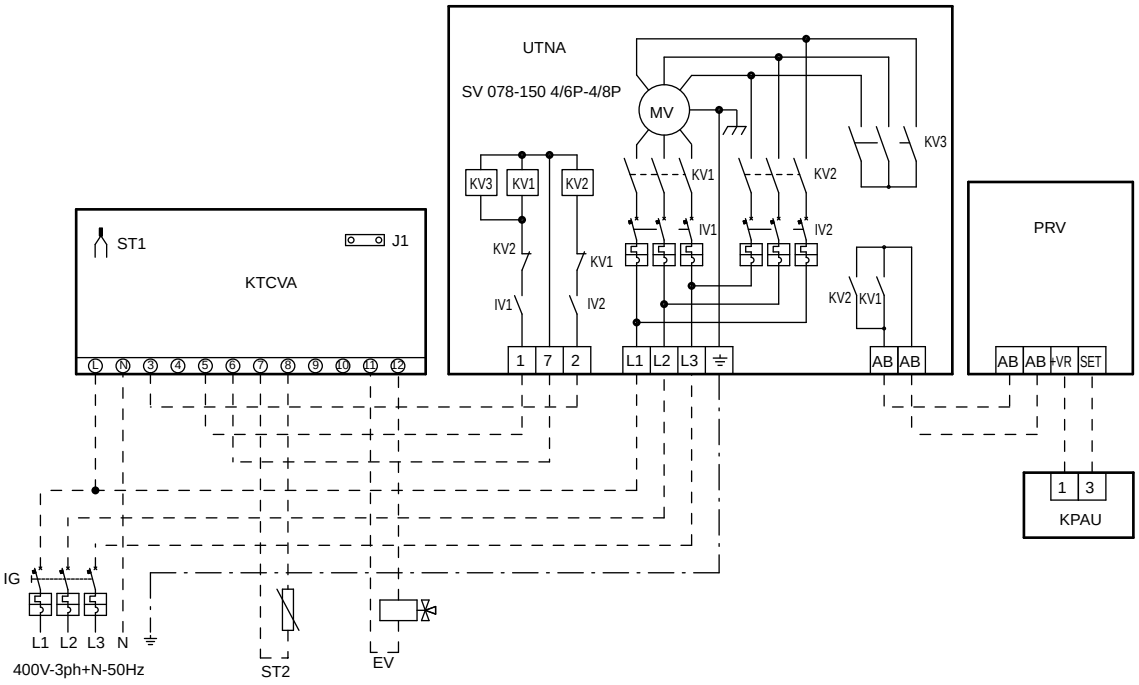
Notes: The ST2 water probe is included in the thermostat package.
The ST2 water probe must be fitted upstream the ON/OFF valve if this is present.
Refer to the User Instructions in the KIT for the electrical connection.
PRV only enabled at the maximum speed.

- T -	White
- A -	Grey
- M -	Brown
- B -	Blue
- R -	Red
- K -	Black
- O -	Orange



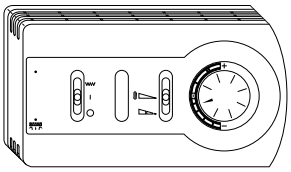



UTNA
SV 078-150 4P
MV
KV
IV
ST1
J1
KTCVA
PRV
1 7
L1 L2 L3
AB AB
AB AB +VR SET
1 3
KPAU
IG
L1 L2 L3 N
400V-3ph+N-50Hz
ST2
EV


UTNA
SV 078-150 4/6P-4/8P
MV
KV3
KV1
KV2
IV1
IV2
ST1
J1
KTCVA
PRV
1 7 2
L1 L2 L3
AB AB
AB AB +VR SET
1 3
KPAU
IG
L1 L2 L3 N
400V-3ph+N-50Hz
ST2
EV

KTCVR (supplied separately)

Electronic control panel including: on/off/electrical resistance switch; automatic summer/winter switch; automatic speed/minimum speed switch; ±5°C comfort adjustment knob; auxiliary contacts (230 Vac) to control the ON/OFF valve in 2-pipe systems, 2-pipe systems with electrical resistance (KR) or 4-pipe systems. Minimum thermostat function, destratification cycle and dirty filter signal. Wall mounted.



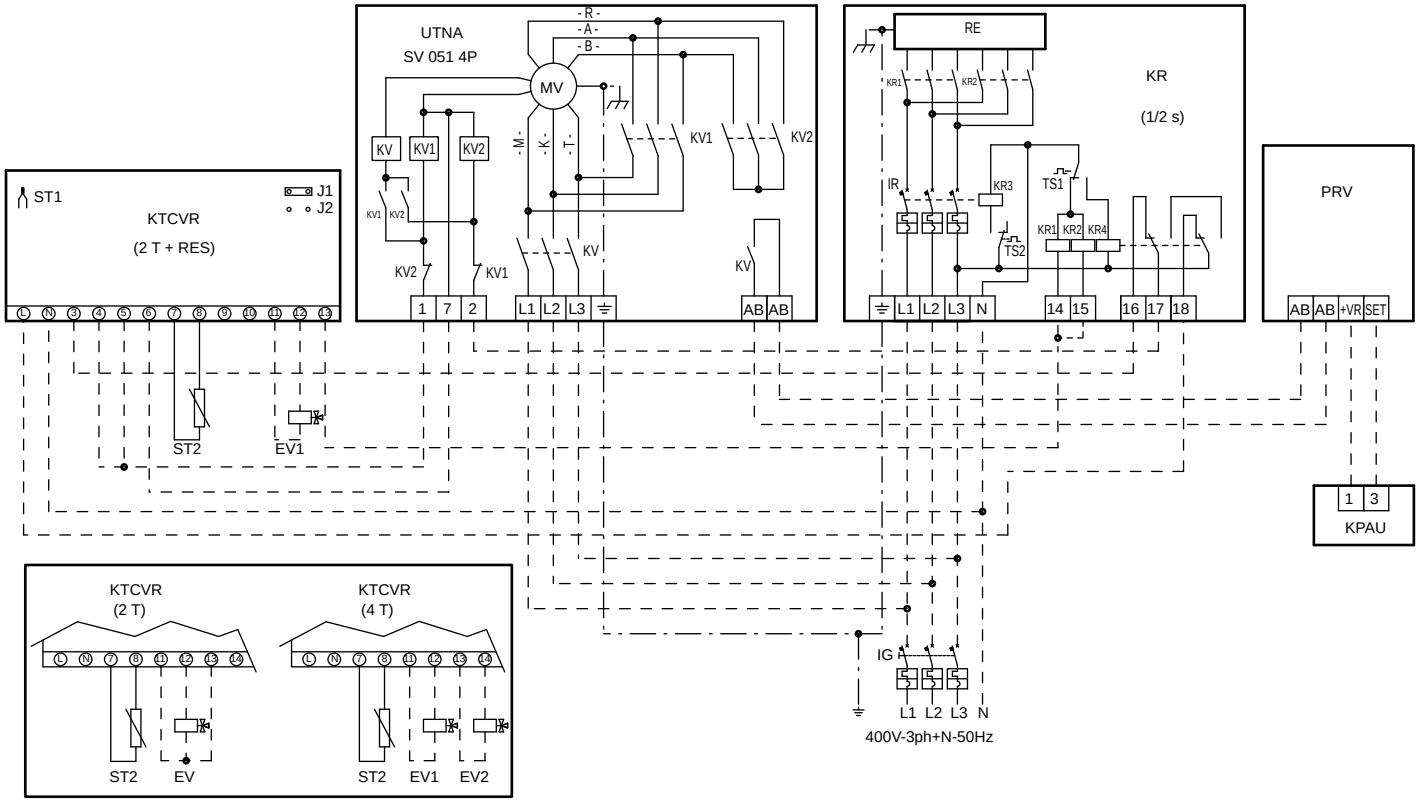
(Dimensions 145 x 82 x40 mm)

UTNA	Base unit
KCVR	Control panel
SV	Fan module
KQE	Electrical panel
PRV	Steam producer
KPAU	Humidistat panel
KR	Electric coil module
EV	Summer/winter electrovalve
EV1	Summer electrovalve
EV2	Winter electrovalve
IG	Master Switch
TM	Minimum thermostat
ST1	Air temperature probe
ST2	Water temperature probe
- - - -	The connection is to be set up by the installer

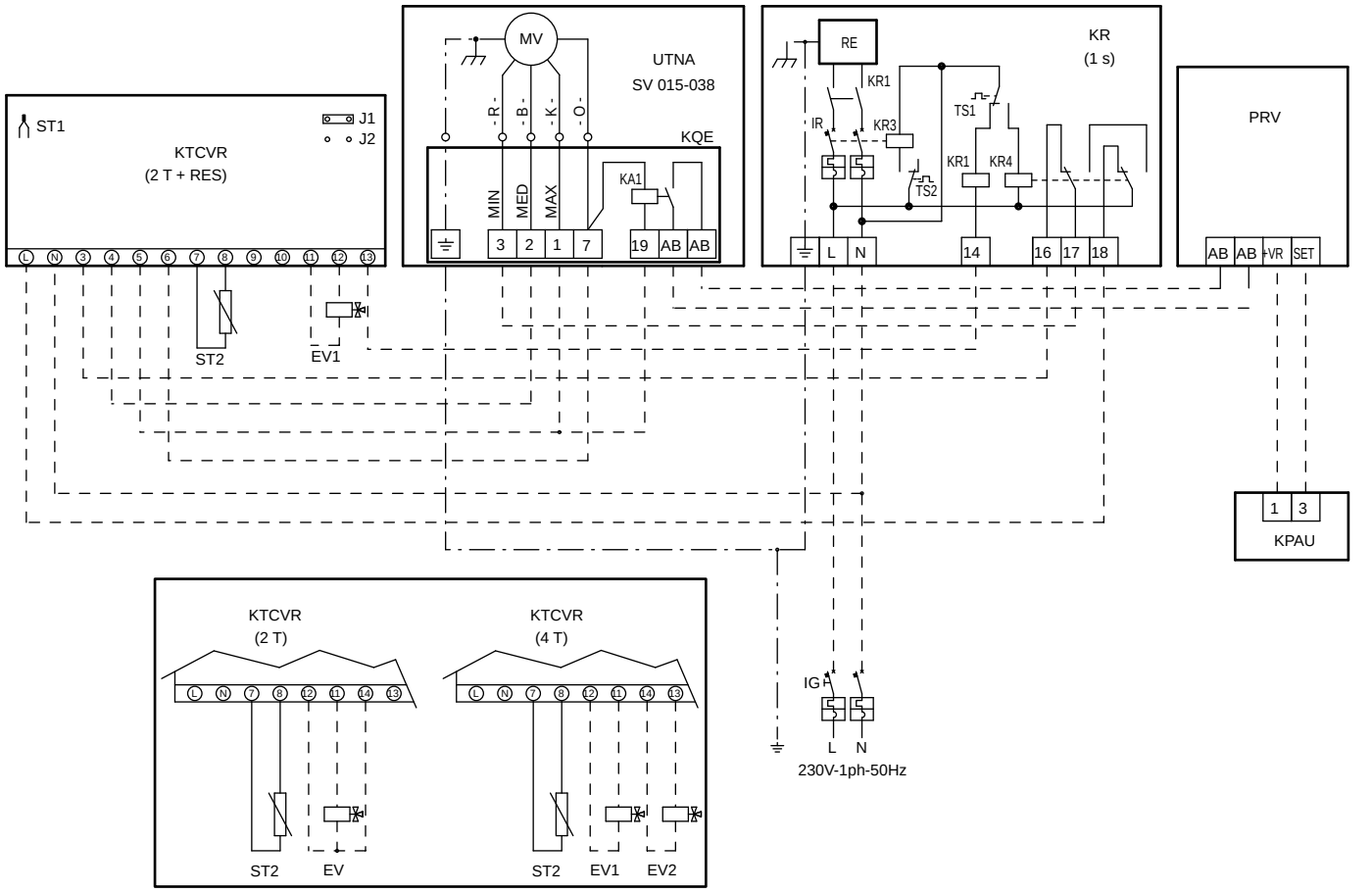
Notes:
Jumper J1 Closed = Internal ST1 Air Probe
Jumper J1 Open = External ST1 Air Probe
Jumper J2 Closed = 4-pipe system
Jumper J2 Open = 2-pipe system (2 pipes + resistance)

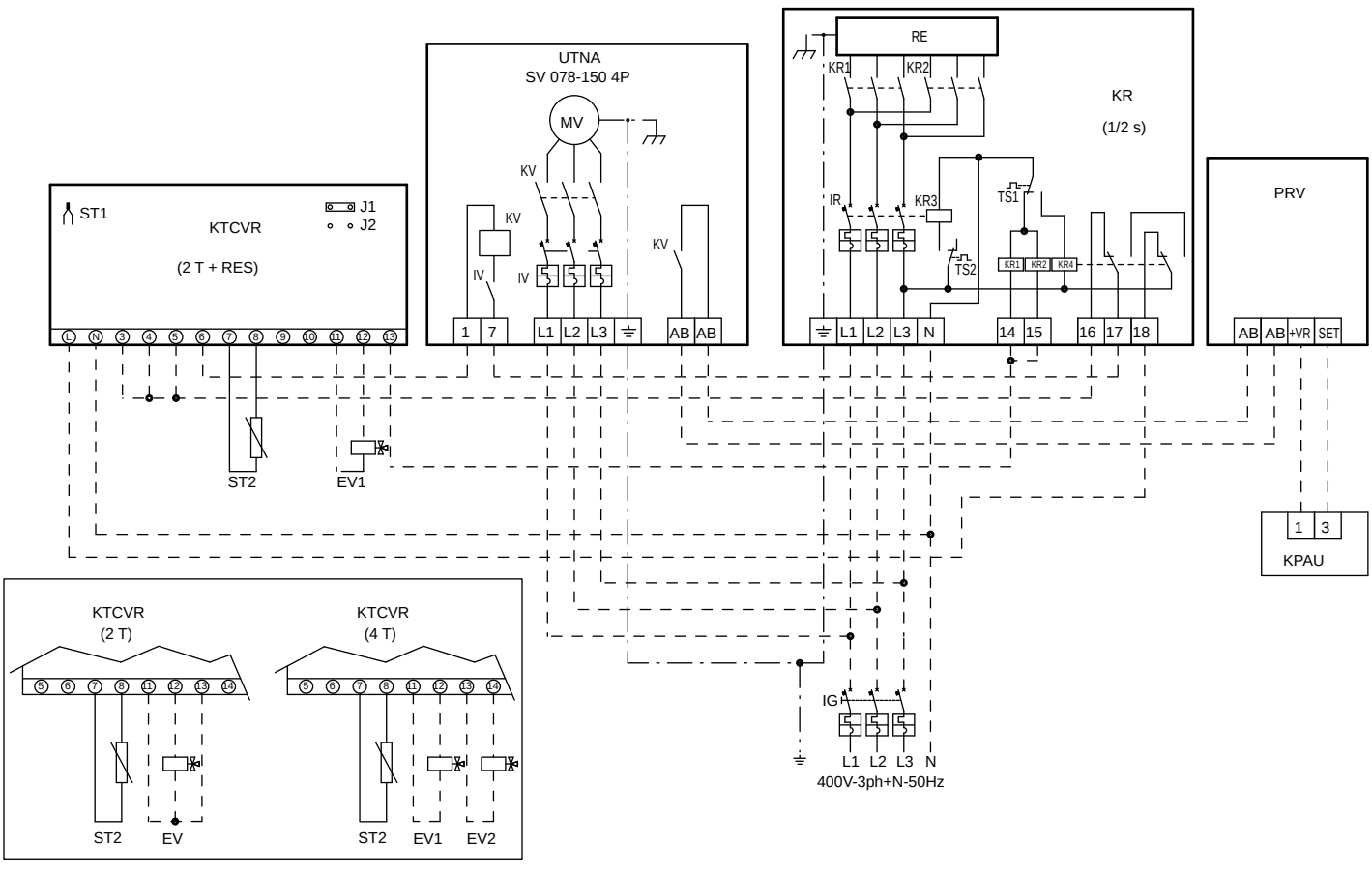
The ST2 water probe is included in the thermostat package.
2-pipe system (2 pipes + resistance) Jumper J2 open and ST2 water probe upstream the valve (if present).
4-pipe system Jumper J2 closed and ST2 water probe placed on the hot coil (with or without the valve).
KR also in the 3-phase 400 V version.
KV3 only present in the 4/8 pole version.
KR 9 kW 1-stage - KR 12-18 kW 2-stage.
Only for 038 - KR 12 kW also in the 2-stage 3-phase 400V version.
PRV only enabled at the maximum speed.
For 2-stage KR - terminal 14 for 1st stage - terminal 15 for 2nd stage.
Refer to the User Instructions in the KIT for the electrical connection.

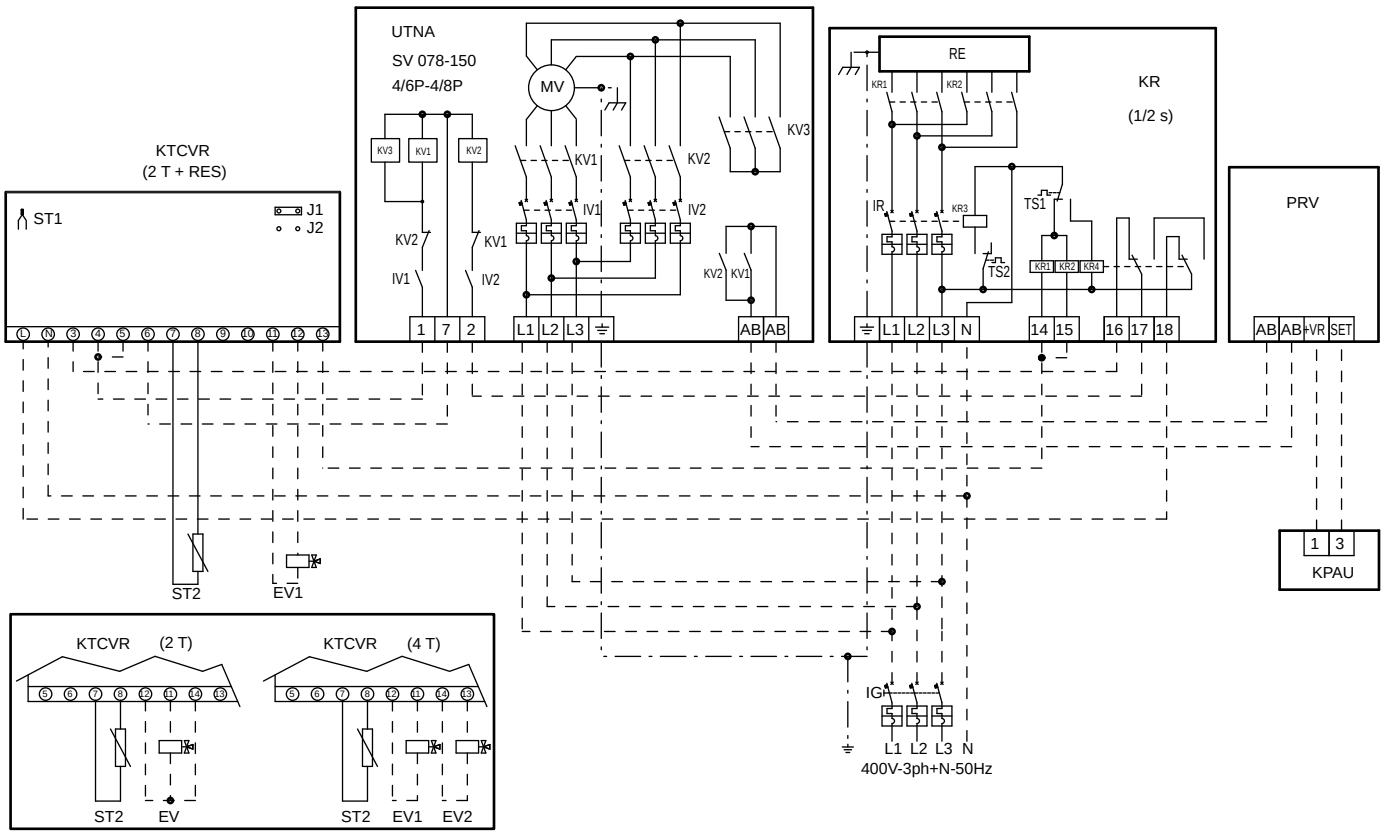
- T -	White
- A -	Grey
- M -	Brown
- B -	Blue
- R -	Red
- K -	Black
- O -	Orange



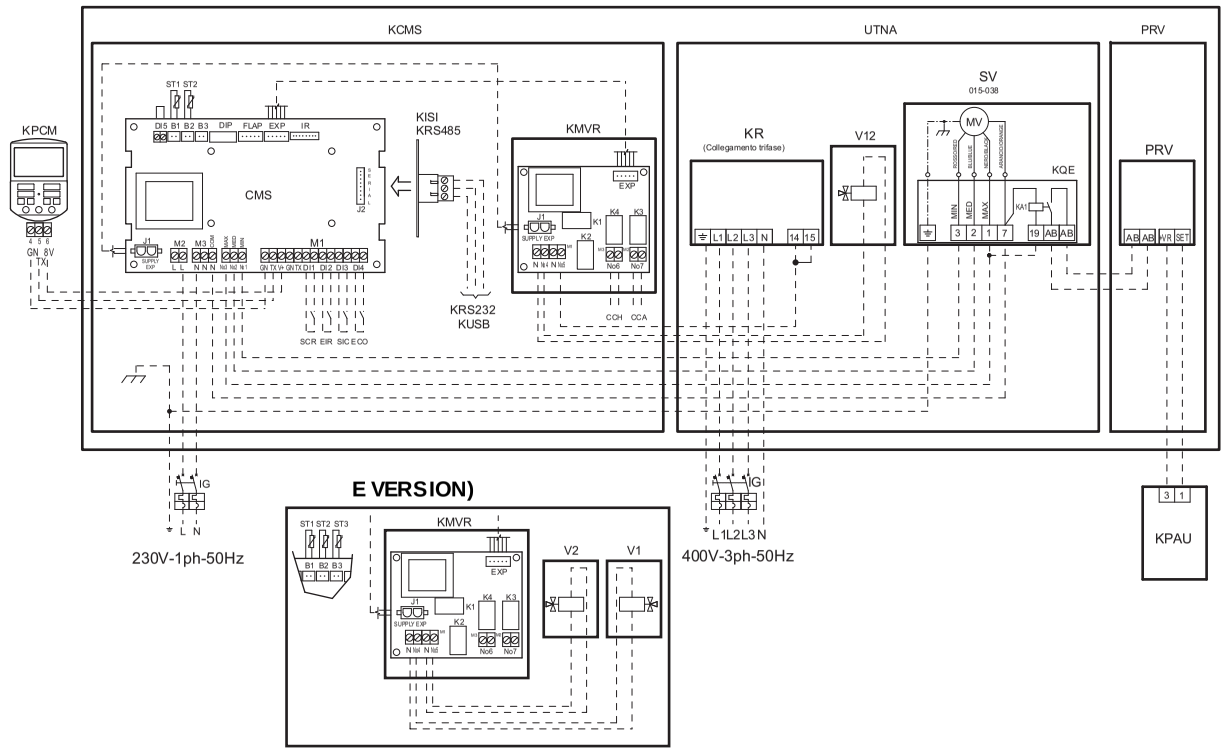
2T = 2 pipes
2T + RES = 2 pipes + resistance
1/2s = 1/2 stages


ST1
J1
J2
KTCVR
(2 T + RES)
MV
UTNA
SV 015-038
KQE
R
B
K
O
MIN
MED
MAX
KA1
3 2 1 7 19 AB AB
RE
KR1
IR
KR3
TS1
TS2
KR1 KR4
KR
(1 s)
L N 14 16 17 18
PRV
AB AB +VR SET
ST2
EV1
1 3
KPAU
KTCVR
(2 T)
KTCVR
(4 T)
L N 7 8 12 11 14 13
ST2 EV
ST2 EV1 EV2
IG
L N
230V-1ph-50Hz


ST1
J1
J2
KTCVR
(2 T + RES)
UTNA
SV 078-150 4P
MV
KV
IV
1 7 L1 L2 L3 AB AB
RE
KR1
KR2
KR
(1/2 s)
IR
KR3
TS1
TS2
KR1 KR2 KR4
L1 L2 L3 N 14 15 16 17 18
PRV
AB AB +VR SET
ST2
EV1
1 3
KPAU
KTCVR
(2 T)
KTCVR
(4 T)
5 6 7 8 11 12 13 14
ST2 EV
ST2 EV1 EV2
IG
L1 L2 L3 N
400V-3ph+N-50Hz

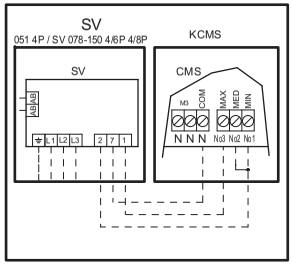

UTNA
SV 078-150
4/6P-4/8P
MV
KV3
KV1
KV2
IV1
IV2
KTCVR
(2 T + RES)
ST1
J1
J2
RE
KR
(1/2 s)
IR
KR3
TS1
TS2
PRV
1 7 2
L1 L2 L3
AB AB
L1 L2 L3 N
14 15
16 17 18
AB AB +VR SET
1 3
KPAU
ST2
EV1
KTCVR (2 T)
ST2 EV
KTCVR (4 T)
ST2 EV1 EV2
IGA
L1 L2 L3 N
400V-3ph+N-50Hz

UTNA 015÷038 + KCMS (1-VALVE + RESISTANCE VERSION)

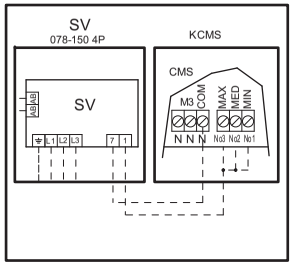


E VERSION)

UTNA 051 4P
UTNA 078-150 4/6P 4/8P



UTNA 078-150 4P



COM	MIN	MED	MAX
- B -	- R -	- O -	- K -
Blue	Red	Orange	Black

KCMS – Electronic control
KPCM – Control panel
IG – Master Switch
L – Line
N – Neutral
SCR – Remote control selector
SIC – Outdoor safety
EIR – Summer/winter remote selector
ECO – Economy function selector
CCH – Chiller consent
CCA – Boiler consent
ST1 – Air temperature probe

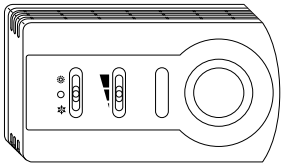
ST2 – Water temperature probe
ST3 – Water temperature probe (KSTI accessory)
KMVR – Valve-resistance module
KISI – Can-bus serial interface module
KRS485 – RS485 serial interface module
KRS232 – RS485-RS232 converter
KUSB – RS485-USB converter
V1 – Cold valve
V2 – Hot valve
V12 – Hot/cold valve
MV – Fan motor
KR – Electrical resistance module

PRV – Steam producer
KPAU – Humidistat panel
PRV – Steam producer
- - - - The installer is responsible for the connections

UTNR

Electrical connection of standard controls

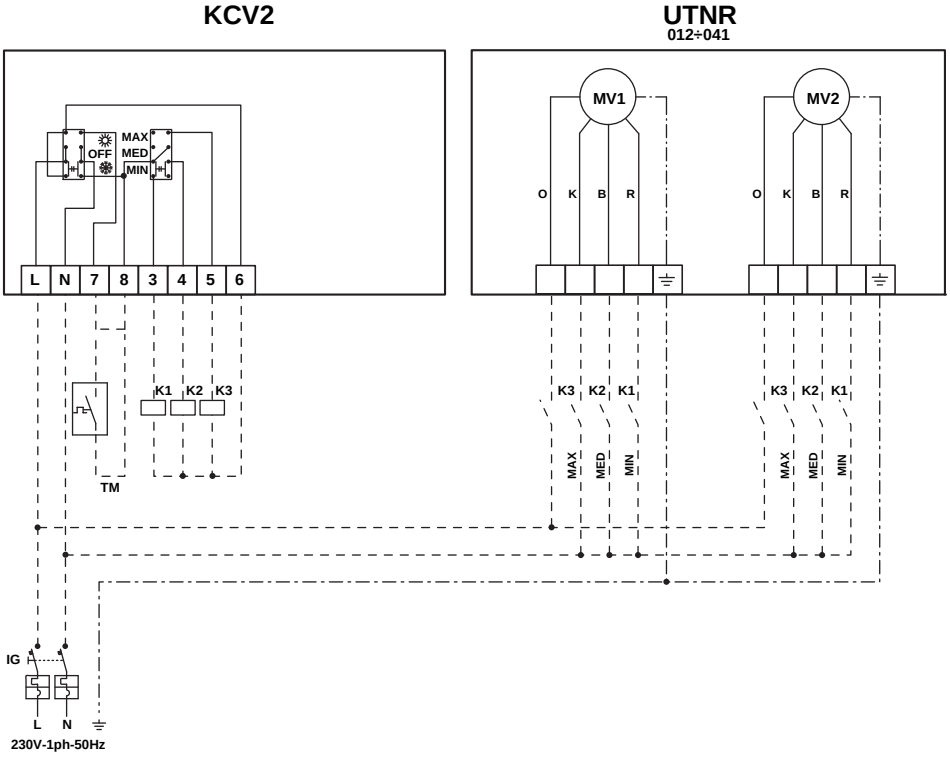
KCV2 (supplied separately) Panel with 3-speed switch complete with the summer/off/winter switch with the option of connecting the minimum thermostat externally. Wall mounted.



(Dimensions 145 x 82 x40 mm)

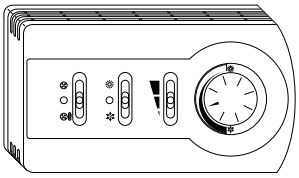
UTNR	Base unit
KCV2	Control panel
K1-K2-K3	Min-med-max speed relay
IG	Master Switch
MV1	Air inlet fan motor
MV2	Air outlet fan motor
TM	Minimum thermostat
- - - -	The connection is to be set up by the installer

- T -	White
- A -	Grey
- M -	Brown
- B -	Blue
- R -	Red
- K -	Black
- O -	Orange



KTCV2 (supplied separately)

Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electrical resistance (KBAE) or 4-pipe systems, with the option of connecting the minimum thermostat externally. Wall mounted.



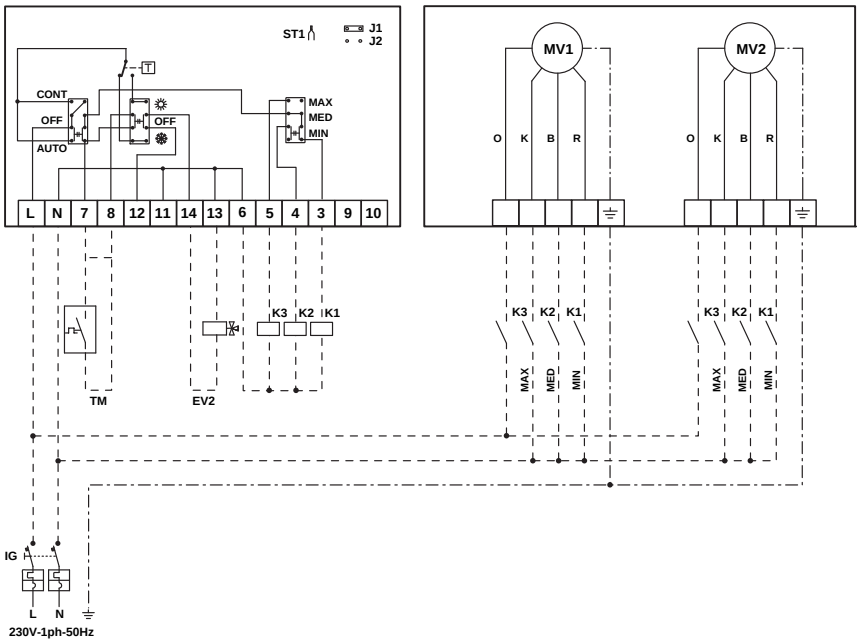
(Dimensions 145 x 82 x40 mm)

UTNR	Base unit
KTCV2	Control panel
K1-K2-K3	Min-med-max speed relay
IG	Master Switch
EV2	Winter electrovalve
MV1	Air inlet fan motor
MV2	Air outlet fan motor
TM	Minimum thermostat
- - - -	The connection is to be set up by the installer

Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe

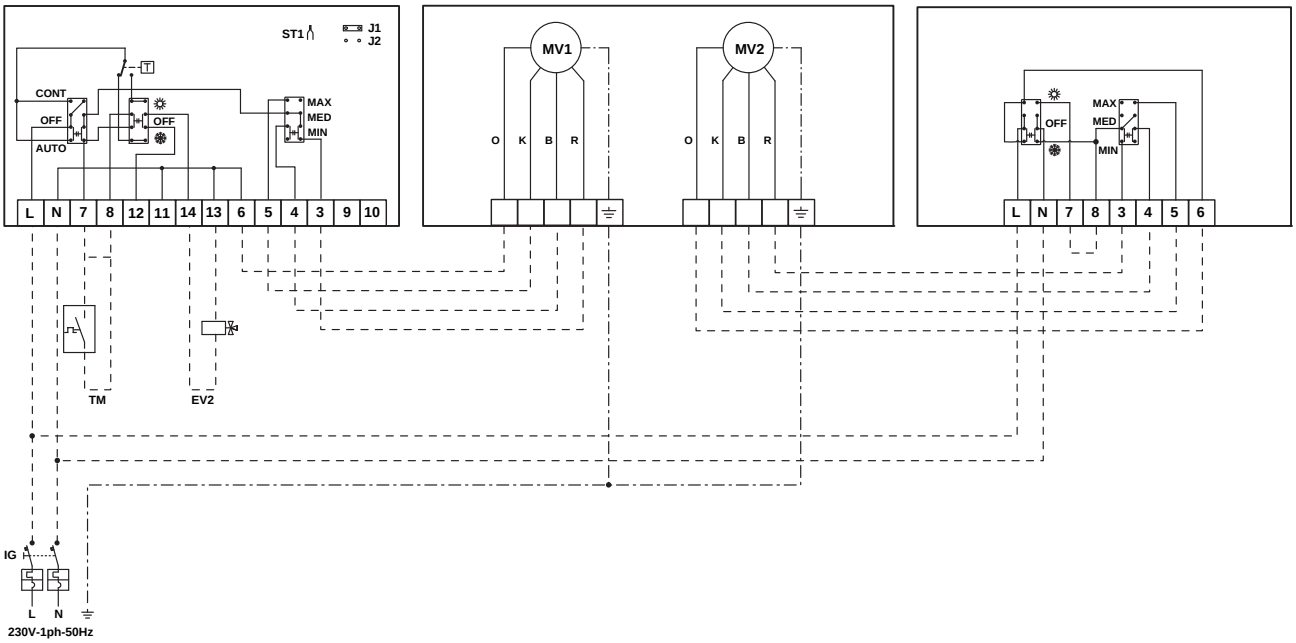
- T -	White
- A -	Grey
- M -	Brown
- B -	Blue
- R -	Red
- K -	Black
- O -	Orange

KTCV2 **UTNR** 012÷041



KTCV2 on inlet fan (MV1) and KCV2 on outlet fan (MV2)

KTCV2 **UTNR** 012÷041 **KCV2**

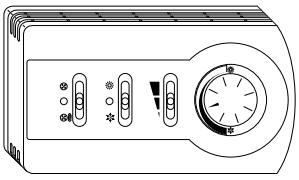


UTNV

Electrical connection of standard controls

KTCV2 (supplied separately)

Control and adjustment panel including: off/continuous ventilation/thermostat ventilation switch; room thermostat; summer/winter switch; speed switch; auxiliary contacts (230 Vac) to control the On/Off valves in 2-pipe systems, 2-pipe systems with electrical resistance (KBAE) or 4-pipe systems, with the option of connecting the minimum thermostat externally. Wall mounted.



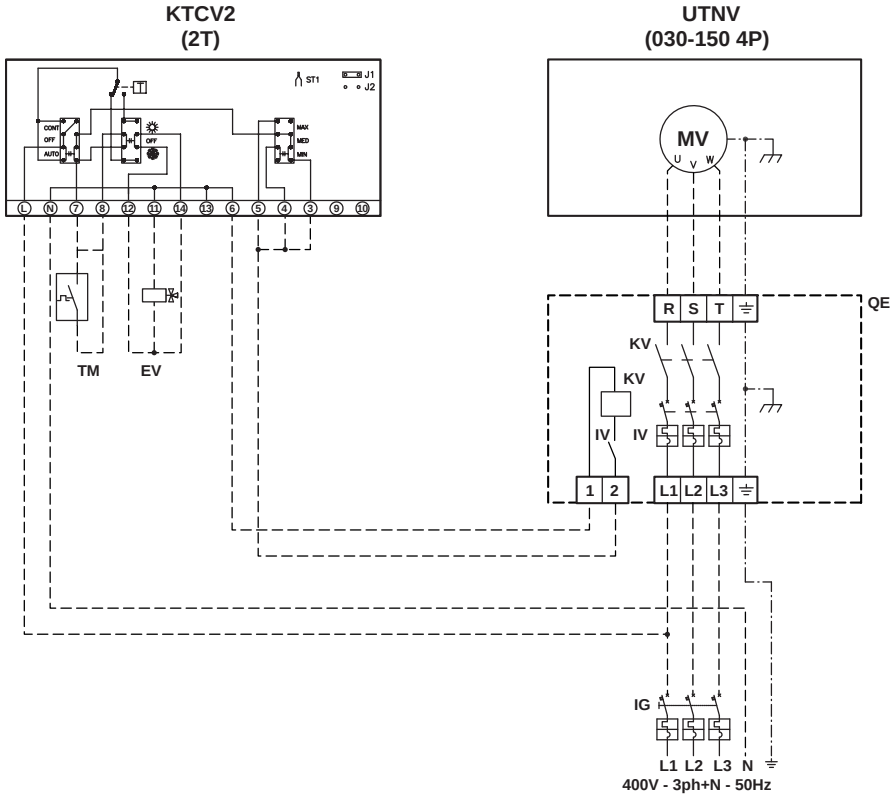
(Dimensions 145 x 82 x40 mm)

UTNV	Base unit
KTCV2	Control panel
QE	Electrical panel (to be set up by the installer)
IG	Master Switch
EV	Summer-winter electroval ve
EV1	Summer electroval ve
EV2	Winter electroval ve
IV	Automatic fan switch
KV	Fan contactor
TM	Minimum thermostat
- - - -	The connection is to be set up by the installer

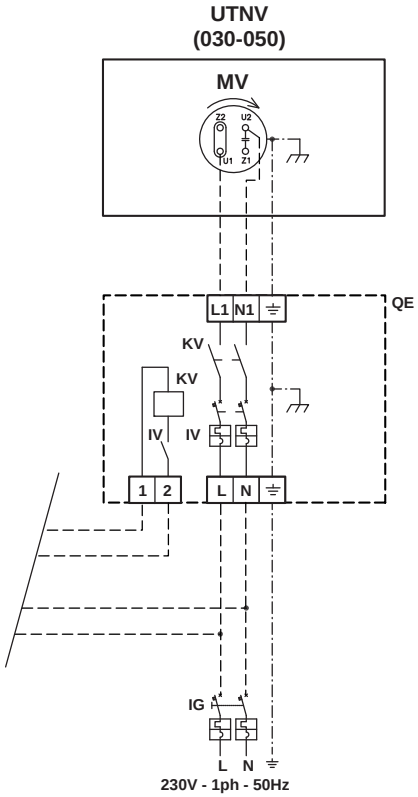
Notes: Jumper J1 Closed = Internal ST1 Air Probe
Jumper J2 Closed = External ST1 Air Probe

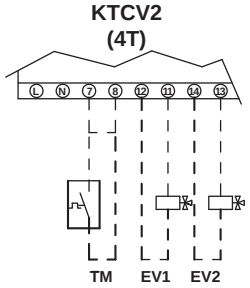
- T -	White
- A -	Grey
- M -	Brown
- B -	Blue
- R -	Red
- K -	Black
- O -	Orange

UTNV with 4-pole 3-phase motor



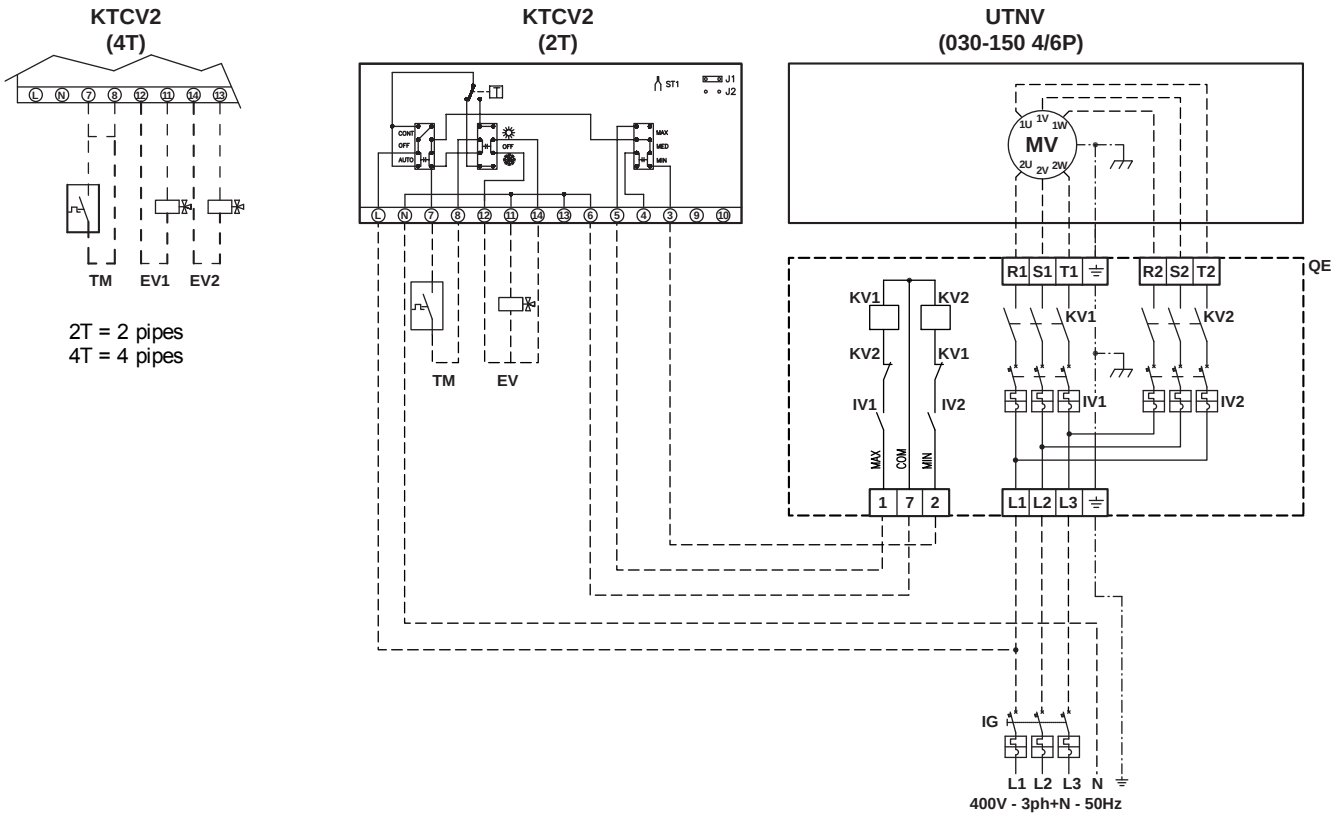
UTNV with single-phase motor



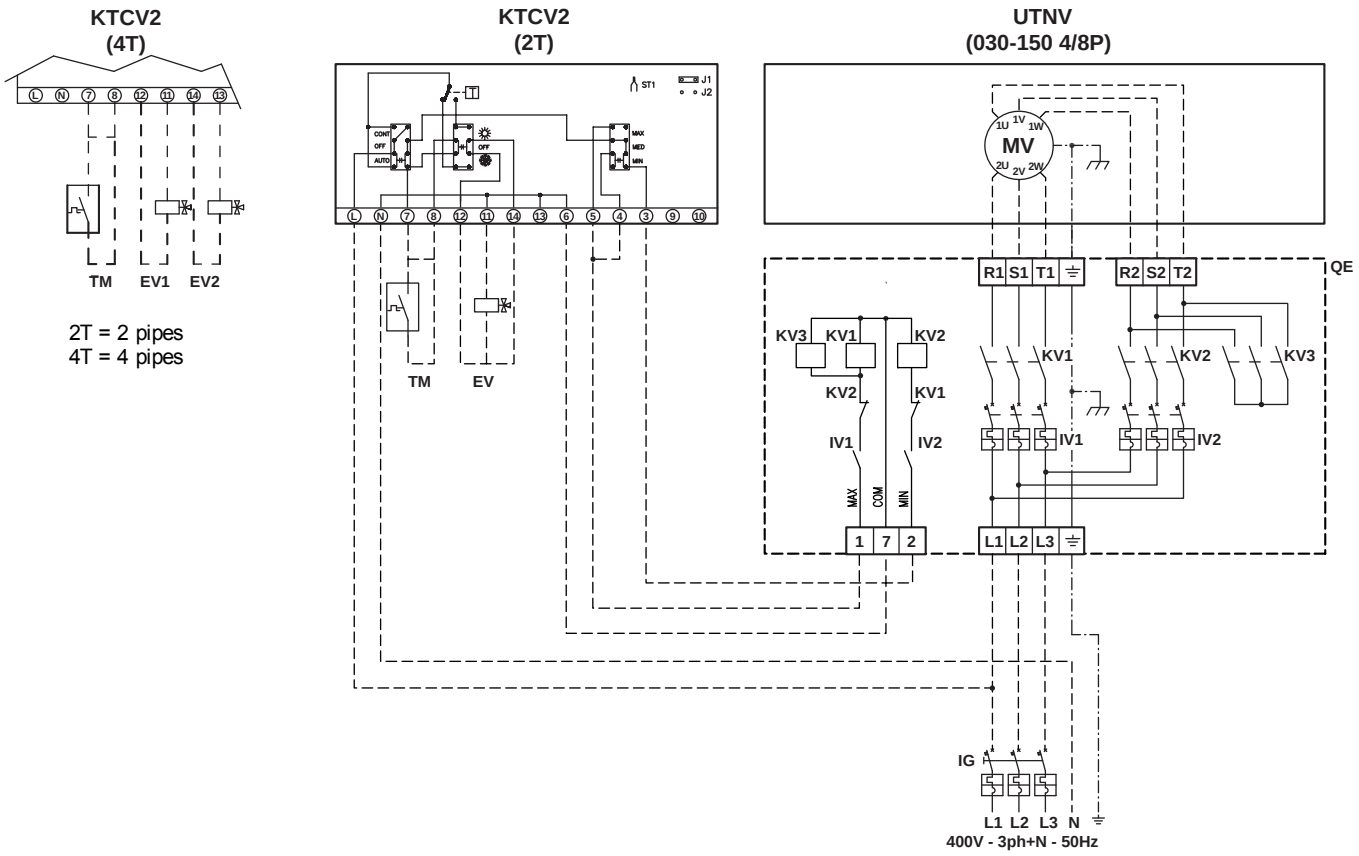


2T = 2 pipes
4T = 4 pipes

UTNV with 4/6-pole 3-phase motor



UTNV with 4/8-pole 3-phase motor



iDRHOSS
HYDRONIC COMFORT SOLUTIONS

iDRHOSS - *Integrated solutions for system management*

iDRHOSS is the new centralised system designed to integrate communication between the Chiller (Chillers and/or Heat Pumps) and Fan coils (Fan Coils and Terminal units) in hydronic systems and to meet the requirements of every type of intended use, be it residential, such as homes, cottages and small hotels, or commercial, such as offices, banks and shops.
iDRHOSS derives from the need to provide a solution for the management of the hydronic system that can offer simple management, safety, reliability, energy savings, comfort and environment protection.
The system is based on **flexible modularity and communication** of user interfaces and I/O boards.
This type of system can be set up thanks to new digital technologies, which allow the various system components to communicate through a serial network.
A microprocessor controller manages the entire system, while the fan coils work independently, in coordination with other fan coils in the same environment or in synergy with the chiller or the pump heat.

The components are also installed quickly and easily thanks to features such as the auto-configuration of the Master and connection between the boards with a simple 2-wire cable.
Furthermore, the possibility of interfacing the system with widely used protocols such as CanOpen, Modbus and LonWorks allows any application to be used.
The user interfaces, such as remote control and wired panel are simple and intuitive, also suitable for a domestic environment.
There are several possible configurations for the networks, according to system requirements and complexity. One of the most important advantages of the **iDRHOSS** networks is their versatility in modifications and subsequent system implementations. The various configurations available allow you to find a common ground between customer requirements and excellent cost effectiveness.
The network can be monitored and maintained efficient by using **iDRHOSS** networks and via an **area terminal** (**KTAU**); The most complete and detailed service is provided by the ***R*HOSS Supervisor** system, which allows the system to be monitored to be connected to from a computer and take full control (currently, only fan coils and terminal units are controlled, and in any case, using the KCA control).
Thanks to the graphical interface of the software, it is much more immediate and intuitive to track and monitor the system, consisting of the chiller/heat pump and terminals, through the supervisory PC monitor.
Moreover, there are innovative controls, such as trend graphs of the monitored values (temperature, pressure, etc.).
At least one PCM electronic control panel to configure a **iDRHOSS** network with fan coils and terminal units.

For detailed information, contact the ***R*HOSS** pre-sales department or refer to the specific documentation.

Chillers (Chillers and/or Heat pumps)

TCAEY-THAEY 105÷260	TCAI-THAI 124 and 150	TCCEY-THCEY 105÷111	TCCE-THCE 114÷126
 			

TCHEY-THHEY 105÷112	TXHEY 105÷112	TXAEY 117÷260
		 

Fan coils and terminal units

BrioEV – Brio-I	YardyEV – Yardy-I	UTNC-EV – UTNC-I	UTNB	UTNA
				

iDRHOSS
HYDRONIC COMFORT SOLUTIONS

Area terminal (KTAU)

(Dimensions 156 x 82 x30 mm)

The control panel for centralised management of all the units in the system.

Description of the keys

UP KEY – Allows the displayed screens to be scrolled and the displayed parameters to be increased.

MODE/ENTER KEY – Allows the parameters to be accessed, modified and saved.

DOWN KEY – Allows the displayed screens to be scrolled and the displayed parameters to be decreased.

Unit

UNIT KEY – One or more alarms are present if the key lights up in red (chillers/heat pumps and terminal units). Press the key once to display the alarm and once again to reset the alarm (if the fault has been restored).

Zone

ZONE KEY – Keep this key pressed for 5 seconds to access the parameters of the single **Zones** (starting from the main screen iDRHOSS). Keep this key pressed for 5 seconds to access the parameters of the chiller/heat pump (starting from the main screen of the chiller/heat pump) (the **Zone** key lights up in orange) and the iDRHOSS menu.

On/Off

ON/OFF KEY – Allows the iDRHOSS system to be switched on/off, both as a chiller/heat pump and terminal units (the On/Off status appears on the display). If browsing through the zone display menus, keep this key pressed for 5 seconds to return to the main iDRHOSS screen.

Functions of the area terminal

- Configuration of the serial network and terminals installed in the zones, with self-control and management of the network itself through reported alarms and anomalies (faulty and/or disconnected serial board).
- Start-up and/or shutdown of the entire system (chiller/heat pump and fan coils/terminal units) and centralised settings of all the terminal units (operating mode, set-point and fan speed).
- Centralised management of the single zones with the possibility of customising the main parameters (ON/OFF, set-point, operating mode, fan speed and sleep/economy mode).
- Centralised management of the Chiller time bands (four daily set-point variation time bands and a daily/weekly ON/OFF time band) and time bands of the terminal units (two daily time bands for the operating mode, room air set-point, fan speed and ON/OFF settings, which can be customised for every day of the week).
- Automatic boiler management (and that of any bypass valve in the water system) if the heat pump should block.
- Manual management of the boiler for the heating cycle in 4-pipe systems.
- Displayed system status and operating modes of the system in relation to the requests of the various zones and automatic seasonal switchover (the heating request has priority over the cooling request). The possible displays are:

Mode: Summer	Cooling mode
Mode: Winter	Heating mode with heat pump
Mode: Winter	Heating mode with boiler
Mode: Waiting call	Waiting call mode (there are no requests from the single zones)

The system is waiting for a call in the **Waiting call** mode. All the terminal units could be switched off or all the set-points could have been reached. When a call is received from a terminal unit, the system will switchover to Summer, Winter or Boiler (Winter + the flame symbol) depending on the settings.
The figure represents a unit that is switched on and the system is running in summer mode.

- Displayed system status:

Unit: ON	System is on
Unit: ON byGSM	The system is switched on via GSM
Unit: OFF iDRHOSS	The system is switched off via the On/Off key
Unit: OFF byKEYB	The chiller/heat pump is switched off via the On/Off key
Unit: OFF T.ZONE	The chiller/heat pump is switched off via the Chiller time bands
Unit: OFF T.Z.IDRH	The system is switched off via time bands Terminal units
Unit: OFF byGSM	The system is switched off via GSM
Unit: OFF by alarm	The system is switched off via an alarm
Unit: OFF DIG.CH	The chiller/heat pump is switched off via a digital input
Unit: OFF DIG.IDRH	The system is switched off via a digital input
Unit: OFF SUPERV.	The system is switched off via the Supervisor

- Centralised management of the alarms (identified with a code and combined with a description) of the Chiller units as well as terminal units.
- Management of the parameters and settings of the Chiller central unit.
- Settings of remote management via GSM to control the unit remotely.

K20002EN ed.3 07.12- 000 - Stampa:

CONTROLS

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