

CONTROL SOLUTIONS FOR DATA CENTERS



CAREL

EVD ice for unipolar valves and what stator to use

**FOR AIR CONDITIONING
IN INDUSTRIAL APPLICATIONS**

CONTROL SOLUTIONS FOR WATERLOOP SYSTEMS

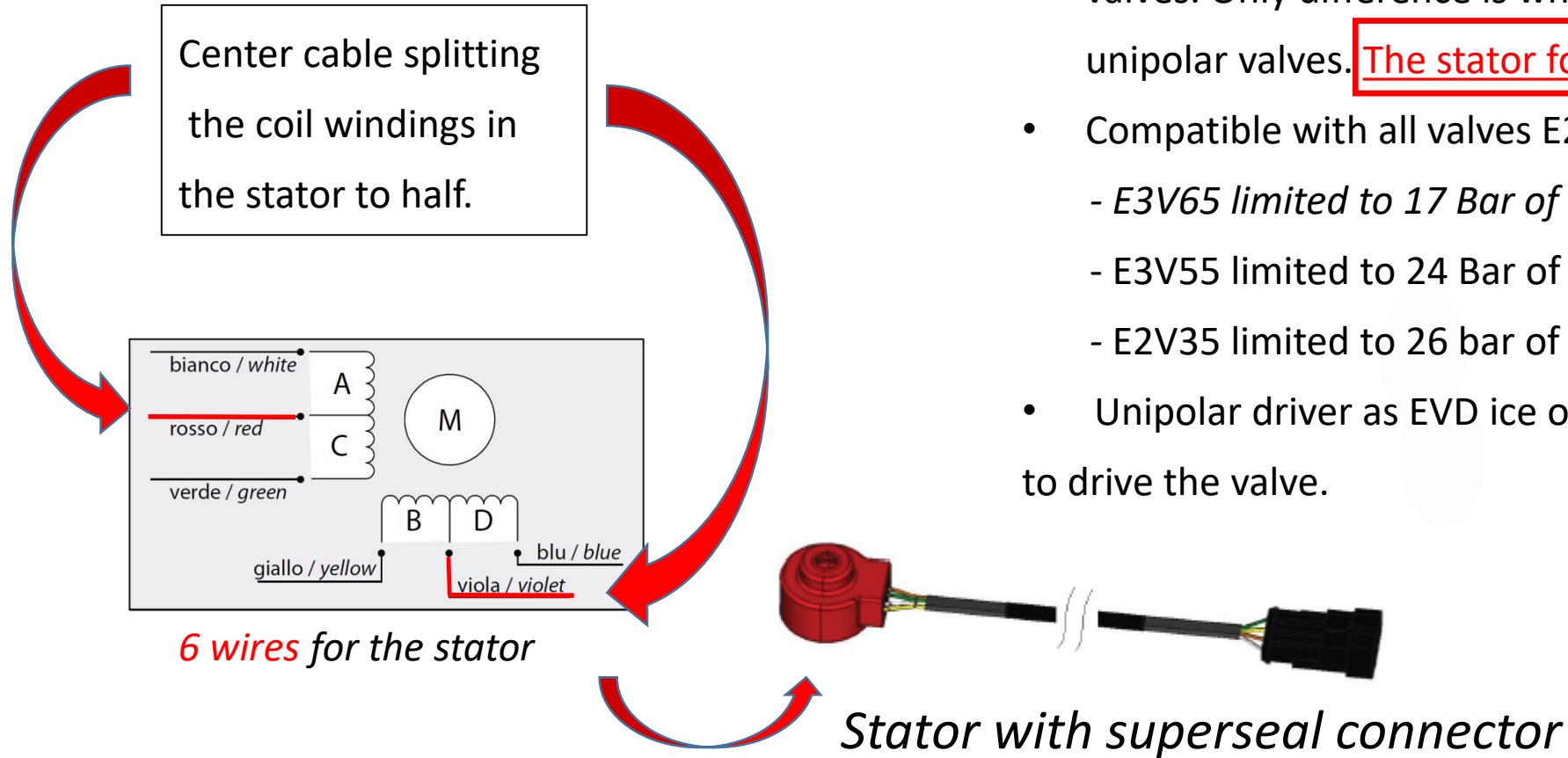
AND REFRIGERATION
INTERNATIONALLY AWARDED

CONTROL SOLUTION FOR
RESIDENTIAL HEAT PUMPS

FOR AIR CONDITIONING
IN RESIDENTIAL APPLICATIONS

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Oct-2022

Unipolar valves

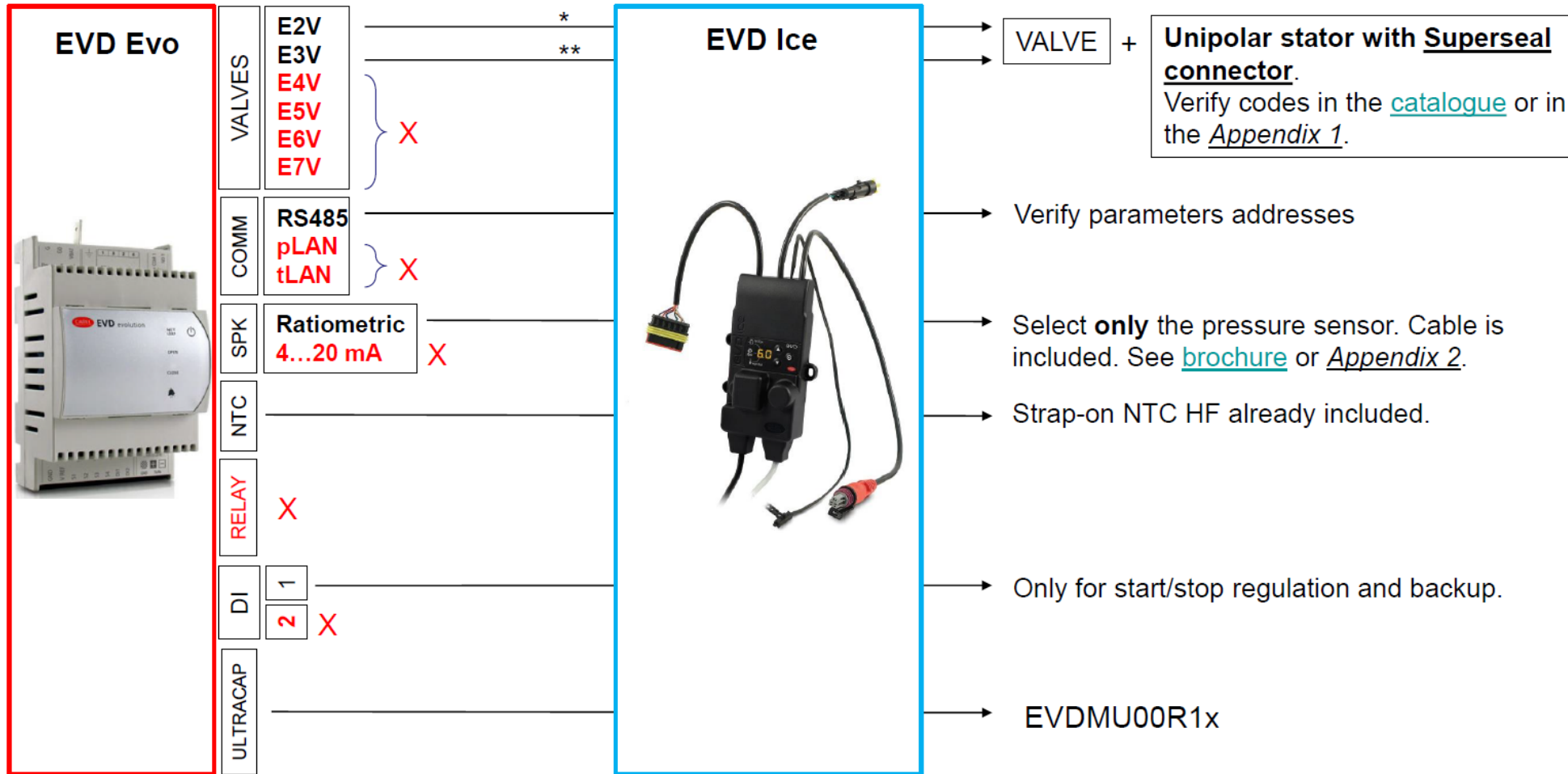


- The valve body is the same for both unipolar and bipolar valves. Only difference is what kind of stator we use for unipolar valves. **The stator for unipolar valves has 6 wires.**
- Compatible with all valves E2V – E3V.
 - E3V65 limited to 17 Bar of MOPD
 - E3V55 limited to 24 Bar of MOPD
 - E2V35 limited to 26 bar of MOPD
- Unipolar driver as EVD ice or EVD mini is required to drive the valve.

Comparision EVD Evo and EVD Ice

Bipolar valve driver

Unipolar valve driver



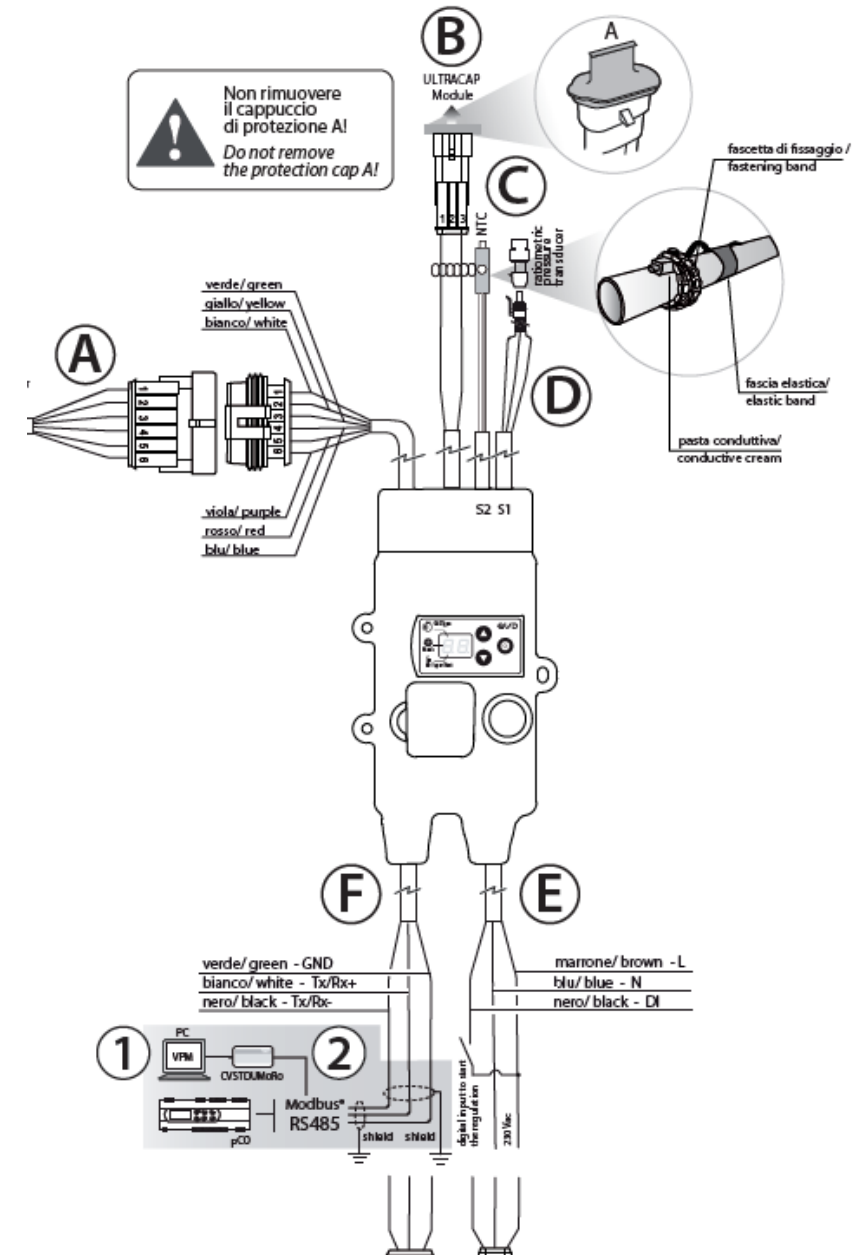
* E2V35 limited to 26 bar of MOPD

** E3V55 limited to 24 bar of MOPD, E3V65 limited to 17 bar of MOPD

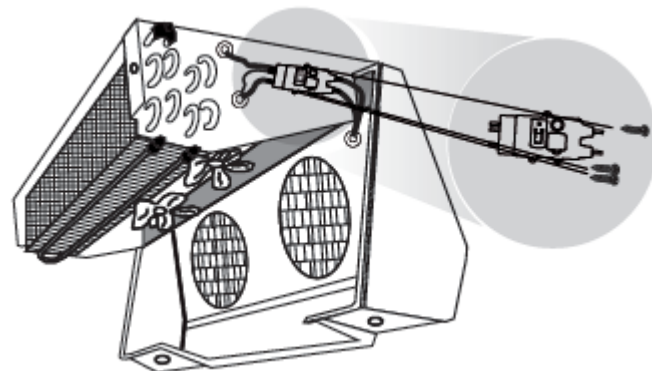
EVD ice I/O

Rif	Cable	Description
A	ExV	Unipolar electronic valve connection
B	Ultracap	Ultracap module connection (accessory)
C	Probe S2	NTC temperature probe
D	probe S1	Ratiometric pressure probe
E	Power supply	
	L: brown	Phase 230 V
	N: blue	Neutral 230 V
	DI: black	230 V digital input to enable control
F	Serial	
	Tx/ Rx +: white	RS485 connection
	Tx/ Rx -: black	
	GND: green	
1	-	Computer for configuration
2	-	USB- RS485 converter (for computer)

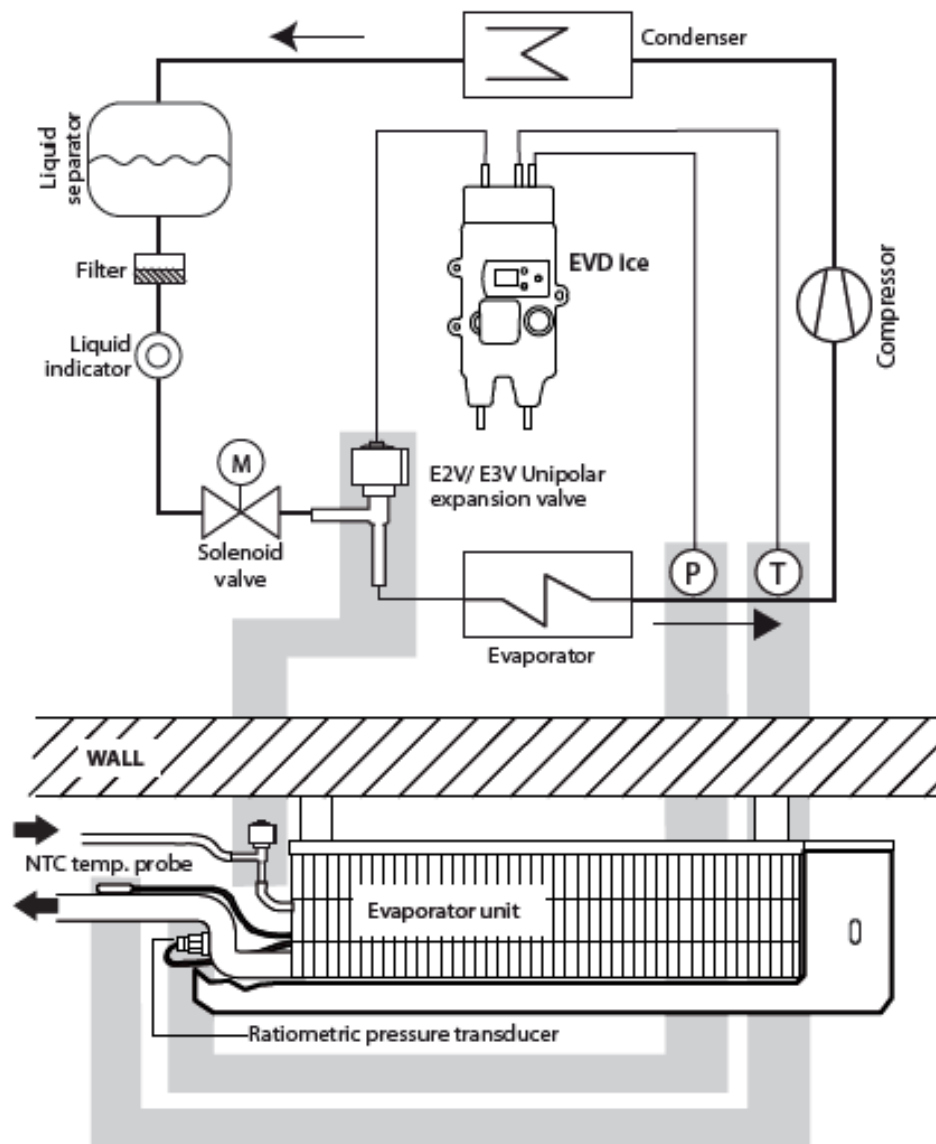
- **S1 pressure probe: ONLY! Ratiometric pressure probes**
- **S2 temperature probe: HF NTC standard CAREL (-50T90C)**



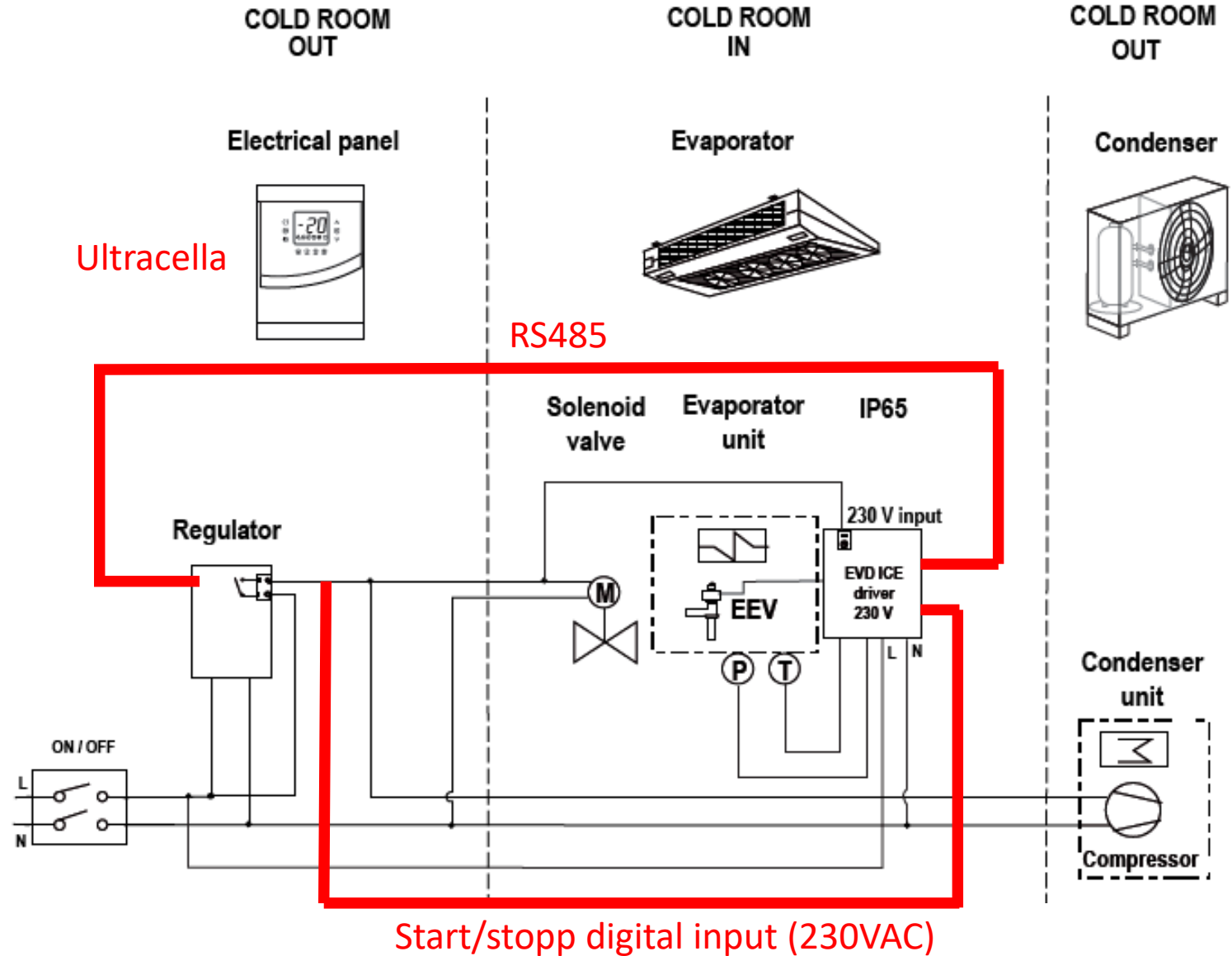
Installation example



- EVD ice mounted on or near the evaporator close to the EEV with 3 screws.
- Reduced installation time, only power cable to controller needed.
- Fast and easy commissioning with 3 parameters:
 - Refrigerant
 - Type of control (Cabinet/cold room, chiller etc)
 - Superheat set point



Installation example



Application example Ultracella

Compatible RS485 communication with Ultracella



All EVD ice parameters accessible through the Ultracella



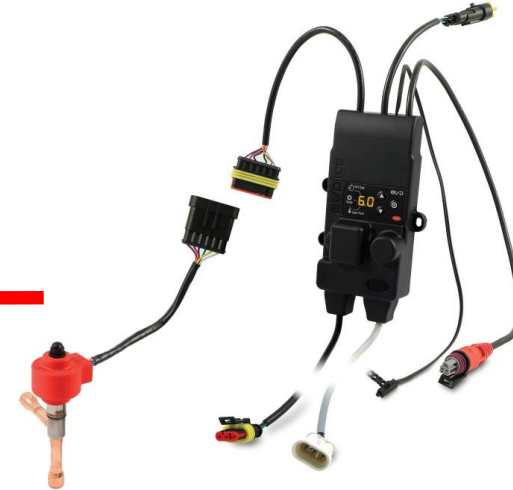
RS485

Application example thermostat controller

Start/stop from thermostat using the compressor relay connected to DI of the EVD ice



DI (230VAC)



Modbus RS485



EVD ice available in the Boss supervisor with Modbus protocol



P/N EVD ice

EVD ice	Description
EVDM011S60	EVD ICE RESIN 115/230V WITH ULTRACAP CABLE L-VERSION
EVDMU00R10	ULTRACAP RESIN MODULE FOR EVD ICE (Spare part, already included in EVDM011S60)






Cable	Length (±5%)
Power supply	500 mm
RS485	500 mm
Pressure probe and NTC probe	2000 mm
Stator valve cable E2V / E3V	300 mm
Ultracap	100 mm

P/N Pressure probes EVD ice

Only ratiometric pressure probes can be used

Pressure probes	Type
SPKT0053P0	-1...4.2 barg
SPKT0013P0	-1...9.3 barg
SPKT0043P0	0...17.3 barg
SPKT0033P0	0...34.5 barg
SPKT00B6P0	0...45 barg
SPKT00E3P0	-1...12.8 barg
SPKT00F3P0	0...20.7 barg
SPKT00G1S0	0...60 barg
SPKT00L1S0	0...90 barg

P/N Unipolar stator with superseal connector

STATOR								
ExV Family	Code	Unipolar	Bipolar	Stator IP	Cable	Length [m]	Terminal	
E2V	E2VSTA037*	✓		67	YES	0.7	JST	
	E2VSTA031*	✓		67	YES	1	JST	
	E2VSTA032*	✓		67	YES	2	JST	
	E2VSTAS31*	✓		69K	YES	1	JST	
	E2VSTAS32*	✓		69K	YES	2	JST	
	E2VSTAS22*			✓	69K	YES	2	Free
	E2VSTAX31*	✓ 			67	YES	1	JST
	E2VSTAX32*	✓ 			67	YES	2	JST
	E2VSTAX3T*	✓ 			67	YES	3	JST
	E2VSTAX21*			✓ 	67	YES	1	-
	E2VSTAX2T*			✓ 	67	YES	3	-
	E2VSTA033*	✓			67	YES	0.3	Superseal
	E2VSTAS33*	✓			69K	YES	0.3	Superseal
E2VSTAS23*			✓	69K	YES	0.3	Superseal	
E2VSTA020*			✓	67	NO	-	-	
E3V	E3VSTA031*	✓		67	YES	1	JST	
	E3VSTA032*	✓		67	YES	2	JST	
	E3VSTA033*	✓		67	YES	0.3	Superseal	
	E3VSTA035*	✓		67	YES	0.5	Superseal	
E3VSTA020*			✓	67	NO	-	-	
E4V&E7V	E4VE7VSTA*		✓	67	NO	-	-	

E2V

- E2VSTAS330 - UNIPOLAR STATOR HERMETIC IP69K WITH 0,3 METER CABLE WITH SUPERSEAL CONNECTOR

E3V

- E3VSTA0330 - UNIP ELECTRICAL COIL IP67 0,3m E3V-B, E3V-C, E3V-S, E3V-H



- For complete document: [catalogue](#)

E2V-Z ExV Parts

- E2V-Z Unipolar valve complete valve kit
- E2V-Z Body parts
- E2V-Z Cartridge

E2V-Z Unipolar valve complete kit

E2V-Z	Description
E2V03ZWF73	UNIPOLAR E2V03Z WHOLESale 1/2 IN. W/O SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR
E2V05ZWF73	UNIPOLAR E2V05Z WHOLESale 1/2 IN. W/O SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR
E2V09ZWF73	UNIPOLAR E2V09Z WHOLESale 1/2 IN. W/O SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR
E2V11ZWF73	UNIPOLAR E2V11Z WHOLESale 1/2 IN. W/O SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR
E2V14ZWF73	UNIPOLAR E2V14Z WHOLESale 1/2 IN. W/O SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR
E2V18ZWF73	UNIPOLAR E2V18Z WHOLESale 1/2 IN. W/O SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR
E2V24ZWF73	UNIPOLAR E2V24Z WHOLESale 1/2 IN. W/O SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR
E2V30ZSM63	UNIPOLAR E2V30Z WHOLESale 16MM(5/8 IN.) WITH SIGHT GLASS - 0.3M CABLE - IP67 SUPERSEAL CONNECTOR

E2V-Z Body parts

Valve body	Pack	Description
E2BR00WF11	10	EL.EXP.VALVE E2VZ 1/2"X1/2" ODF - BODY ONLY - W/O SIGHT-GLASS - MULTIPLE PACK. NO.10 PCS
E2BR00WF01	10	EL.EXP.VALVE E2VZ 1/2"X1/2" ODF - BODY ONLY - WITH SIGHT-GLASS - MULTIPLE PACK. NO.10 PCS
E2BR00WF10	1	E2V-Z body 1/2"-1/2" W/O sight glass
E2BR00WF00	1	E2V-Z body 1/2"-1/2" with sight glass
E2BR00SM11	10	E2V-Z body 16mm-16mm W/O sight glass
E2BR00SM01	10	E2V-Z body 16mm-16mm with sight glass
E2BR00SM10	1	E2V-Z body 16mm-16mm W/O sight glass
E2BR00SM00	1	E2V-Z body 16mm-16mm with sight glass

E2V-Z Cartridge

Cartridge	Pack	Description
E2VATT03Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V03Z
E2VATT05Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V05Z
E2VATT09Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V09Z
E2VATT11Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V11Z
E2VATT14Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V14Z
E2VATT18Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V18Z
E2VATT24Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V24Z
E2VATT30Z1	10	E2V-Z Actuator Cartridge with orifice integrated E2V30Z

E3V-S ExV Parts

- E3V-S Unipolar valve

E3V-S valve complete kit w unipolar stator

E3V-S	Description
E3V35SSR70	E3V-35 SMART UNIP. 18-22 ODF CABLE 0,3M IP67 W/O SIGHT GLASS
E3V45SWR70	E3V-45 SMART UNIP. 3/4"-7/8" INCH. CABLE 0,3M IP67 W/O SIGHT GLASS

E3V-S valves w/o stator

E3V-S	
E3V55SWRC0**	E3V-55 SMART 3/4"-7/8" ODF W/O SIGHT GLASS W/O STATOR
E3V65SWSC0**	E3V-65 SMART 7/8"-1+1/8" ODF W/O SIGHT GLASS W/O STATOR

** Unipolar stator sold separately

Summary

- **EXV and transducers:**
 - Compatible with valves E2V and E3V up to size 65.
Pressure differential limitations for some sizes.
 - **Unipolar stator 6 wires** with superseal connector
 - **Only ratiometric probes** are supported
- **Power supply and DI:**
 - 230/115VAC compatible