



DIN RAIL DRIVER FOR ELECTRONIC EXPANSION VALVES



APPLICATIONS:

Refrigerated counters and cold room.



PEV P20	06
NEXUS P20	08
PEV S27	10
NEXUS S27	12
EEV EXPANSION VALVES	14



CONSOLE:
PEV P20
PEV S27



STEPPER VALVE DRIVER:
PEV S27



The new series of electronic controls for the management of ON / OFF electronic expansion valves or for Stepper servomotors can be configured with remote display or integrated display for the **PEV** series, while the new line of **(NEXUS** controllers allows maximum integrated connectivity and remote control through the **MyPego** app.

SOLENOID VALVE DRIVER:

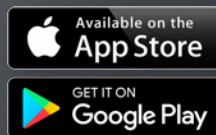
PEV P20

SOLENOID VALVE DRIVER:

((NEXUS P20

EXTREME CONNECTIVITY FOR TOTAL REMOTE CONTROL

- WiFi and Ethernet connectivity
- Bluetooth connectivity
- Cloud connection with **MyPego** APP



- Automatic notification in case of anomaly *
- Accessibility 24/24 from APP *
- Emergency management
- Maintenance planning
- Time organization

* Free trial for a limited time. Subscription plans available.

STEPPER VALVE DRIVER:

((NEXUS S27

((NEXUS IN TOUCH WITH YOUR WORK

The connection to the Pego cloud via Ethernet / Wifi allows the user to always stay in contact with the cold room by receiving real-time notifications in case of anomalies directly on the smartphone.

PEV P20

Electronic regulator for control of ON/OFF electronic expansion valve with 230/110/24 VAC or 24 VDC coil. It can be configured with a remote or integrated display, it manages the most common ON/OFF electronic expansion valves and integrates the evaporator overheating control.



APPLICATIONS

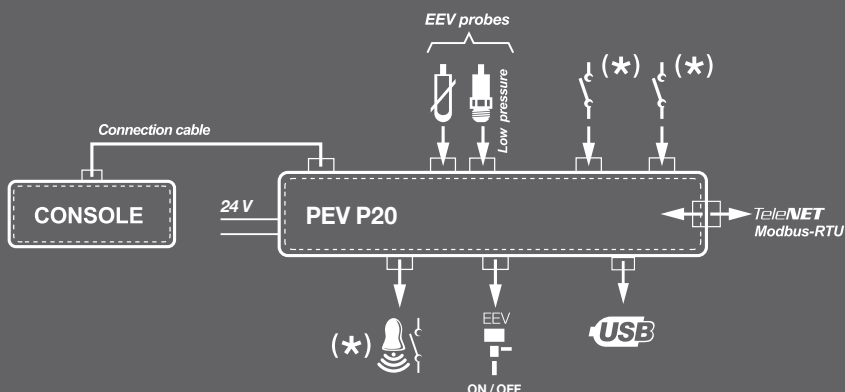
- Refrigerated counters and cold room.

MAIN CHARACTERISTICS

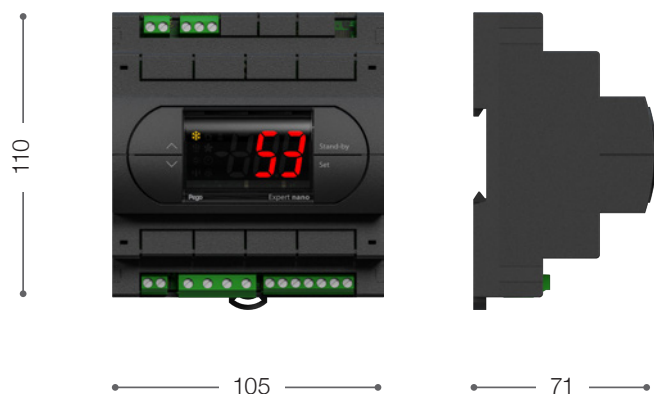
- Control of the ON/OFF electronic expansion valve with 230/110/24 VAC and 24 VDC coil.
- Compatible with 23 gas types: R404, R134, R22, R407A, R407F, R407H, R410A, R450A, R507, R513A, R744 (CO₂), R449A, R290, R32, R448A, R452A, R600, R600A, R1270, R1234ze, R23, R717 (NH₃), R454C.
- Software update via USB.
- Integrated or remote control console.
- RS485 serial connection with TeleNET or Modbus protocol can be selected by parameter.
- Two configurable digital inputs.
- Intake temperature and evaporation pressure probe for managing evaporator overheating.
- Remote display with IP65 protection.
- Easy parameter programming with 4 pre-configurations for the different applications of the electronic expansion valve.
- Alarm signaling.
- System status LED signals and large display.
- User-friendly keyboard.

CONNECTION DIAGRAM

(*) = Configurable function



PEV P20



CONSOLE



TECHNICAL CHARACTERISTICS	PEV P20
DIMENSIONS	PEV P20: 105 x 110 x 71 mm CONSOLE: 93 x 37 x 23.1 mm
WEIGHT	0.5 kg
DISPLAY PROTECTION RATING	IP65
POWER SUPPLY	24 V AC/DC $\pm 10\%$ 50/60 Hz
LOAD TYPE	SINGLE-PHASE
WORKING TEMPERATURE	$-5 \div +50$ °C
STORAGE TEMPERATURE	$-10 \div +70$ °C
RELATIVE AMBIENT HUMIDITY	< 90% RH
COMPONENT STATUS INDICATOR	LED + DISPLAY
ALARM SIGNALS	LED + BUZZER
INPUTS	
DIGITAL INPUT	N°2 CONFIGURABLE
INTAKE PROBE	NTC 10 k Ω / PT1000 / PTC
EVAPORATION PRESSURE PROBE	4-20 mA
OUTPUTS	
ELECTRONIC EXPANSION VALVE	ON/OFF 24/110/230 VAC or 24 V DC
ALARM RELAY	PRESENT
SUPERVISION SYSTEM	TELENET / MODBUS - RTU
ACCESSORIES	
ACCESSORIES AVAILABLE	NANO BOX NANO ADAPTER

PEV P20



CONSOLE



CONNECTION CABLE

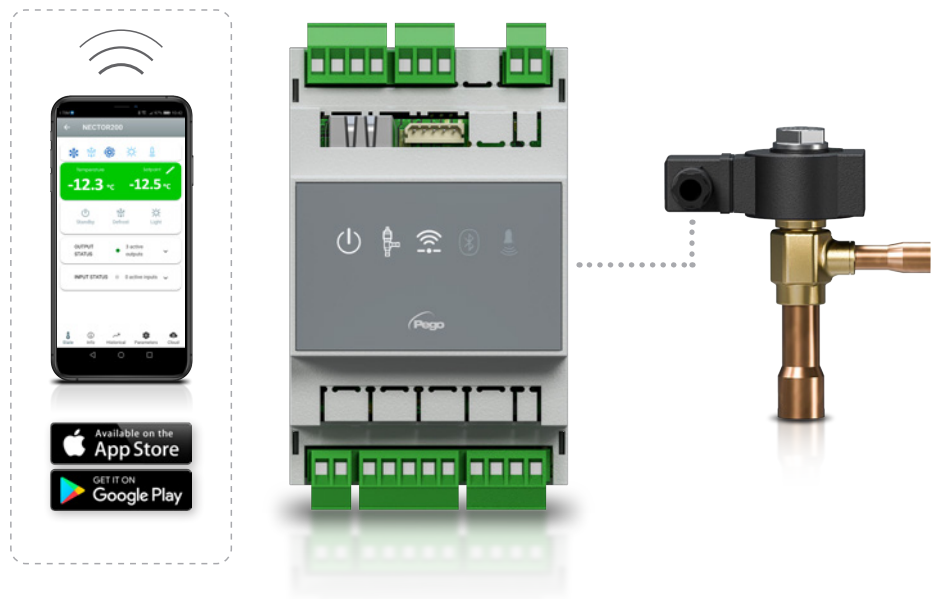
PEV P20



NEXUS P20

Electronic regulator for controlling the ON/OFF electronic expansion valve with 230/110/24 VAC or 24 VDC coil, with integrated connectivity functions through the **MyPego** app.

Manages the most common ON/OFF electronic expansion valves for controlling evaporator overheating.



APPLICATIONS

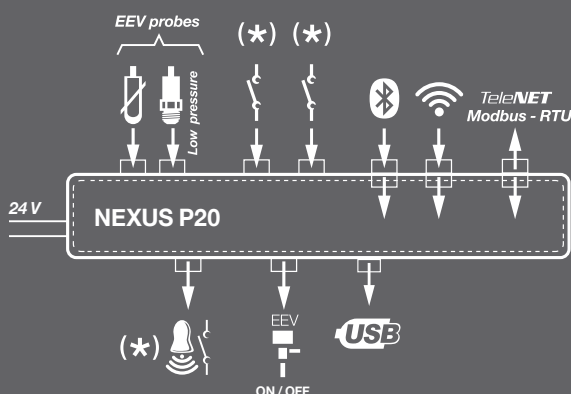
- Refrigerated counters and cold room.

MAIN CHARACTERISTICS

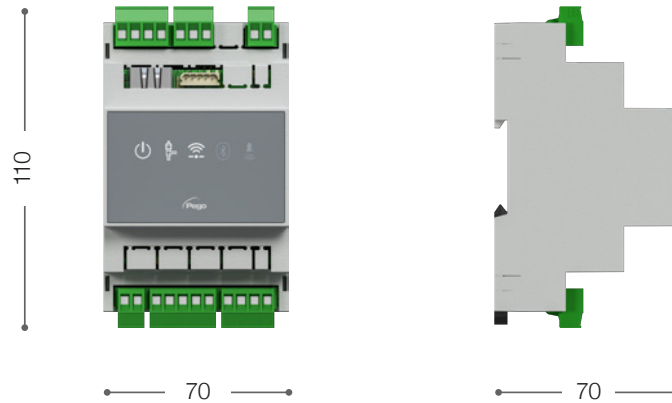
- Bluetooth, WiFi and ethernet connectivity for interaction with the driver and diagnostics by the installer.
- No on-board display. The MyPego APP is used for programming. It is possible to connect an external display with IP65 protection, as a service terminal.
- Control of the ON/OFF electronic expansion valve with 230/110/24 VAC and 24 VDC coil.
- Compatible with 23 gas types: R404, R134, R22, R407A, R407F, R407H, R410A, R450A, R507, R513A, R744 (CO₂), R449A, R290, R32, R448A, R452A, R600, R600A, R1270, R1234ze, R23, R717 (NH₃), R454C.
- Software update via USB.
- RS485 serial connection with TeleNET or Modbus protocol can be selected by parameter.
- Two configurable digital inputs.
- Intake temperature and evaporation pressure probe for evaporator superheat management.
- Easy parameter programming with 4 pre-configurations for the different applications of the electronic expansion valve.
- Plastic container for DIN bar for 4 DIN modules.

CONNECTION DIAGRAM

(*) = Configurable function



NEXUS P20



TECHNICAL CHARACTERISTICS	NEXUS P20
DIMENSIONS	NEXUS P20: 110 x 70 x 70 mm
WEIGHT	0.5 kg
DISPLAY PROTECTION RATING	IP65
POWER SUPPLY	24 V AC/DC $\pm 10\%$ 50/60 Hz
LOAD TYPE	SINGLE-PHASE
WORKING TEMPERATURE	$-5 \div +50$ °C
STORAGE TEMPERATURE	$-10 \div +70$ °C
RELATIVE AMBIENT HUMIDITY	$< 90\%$ RH
COMPONENT STATUS INDICATOR	LED + DISPLAY
ALARM SIGNALS	LED + BUZZER
INPUTS	
DIGITAL INPUT	N°2 CONFIGURABLE
INTAKE PROBE	NTC 10 k Ω / PT1000 / PTC
EVAPORATION PRESSURE PROBE	4-20 mA
OUTPUTS	
ELECTRONIC EXPANSION VALVE	ON/OFF 24/110/230 VAC or 24 V DC
ALARM RELAY	PRESENT
ACCESSORIES	
ACCESSORIES AVAILABLE	NANO BOX NANO ADAPTER
CONNECTIVITY	
RS485 SERIAL	MODBUS-RTU / TELENET
BLUETOOTH	BLE LOW ENERGY
WIFI	802.11 B/G/N (2.4 GHZ) UP TO 150 Mbps
ETHERNET	10/100 Mbps

NEXUS P20

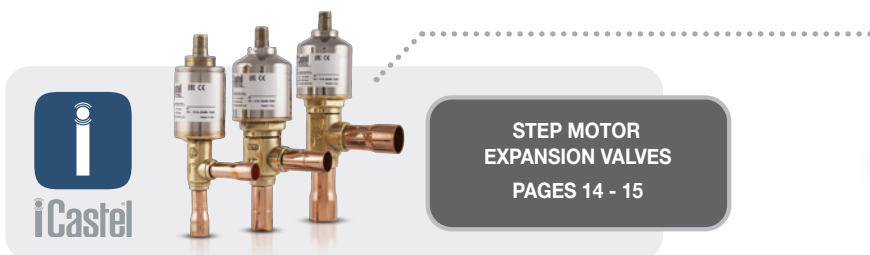


PEV S27

Electronic regulator for controlling the motorized electronic expansion valve.

It can be configured with a remote or integrated display.

Controls the most common bipolar stepper electronic expansion valves and integrates the evaporator overheating management.



STEP MOTOR
EXPANSION VALVES
PAGES 14 - 15



APPLICATIONS

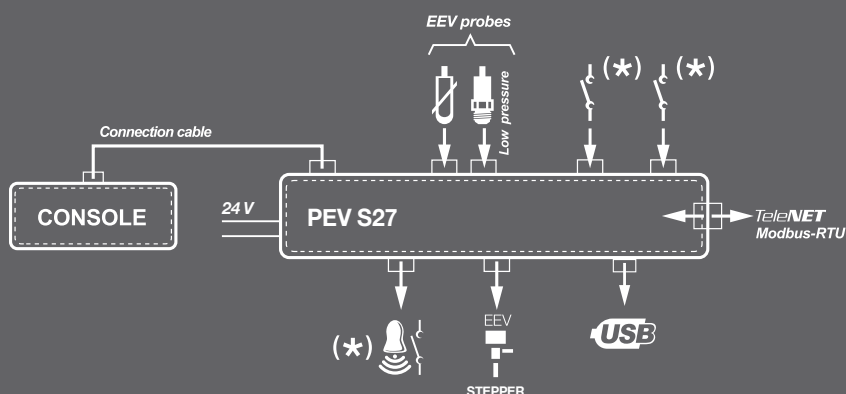
- Refrigerated counters and cold room.

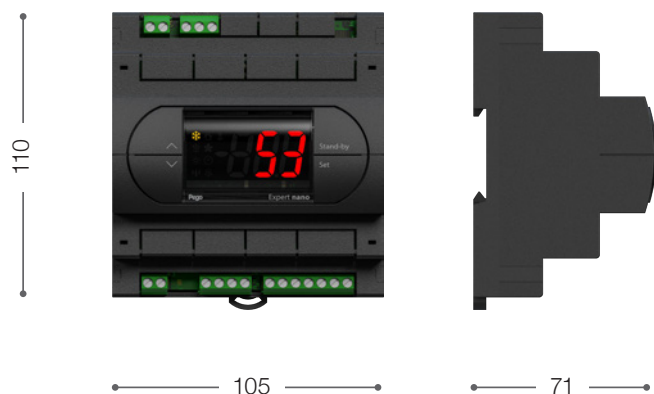
MAIN CHARACTERISTICS

- Control of the motorized electronic expansion valve.
- Compatible with 23 gas types: R404, R134, R22, R407A, R407F, R407H, R410A, R450A, R507, R513A, R744 (CO₂), R449A, R290, R32, R448A, R452A, R600, R600A, R1270, R1234ze, R23, R717 (NH₃), R454C.
- Software update via USB.
- Integrated or remote control console.
- RS485 serial connection with TeleNET or Modbus protocol can be selected by parameter.
- Two configurable digital inputs.
- Intake temperature and evaporation pressure probe for evaporator overheating management.
- Remote display with IP65 protection.
- Easy parameter programming with 4 pre-configurations for the different applications of the electronic expansion valve.
- Alarm signaling.
- System status LED signals and large display.
- User-friendly keyboard.

CONNECTION DIAGRAM

(*) = Configurable function



PEV S27

CONSOLE


TECHNICAL CHARACTERISTICS	PEV S27
DIMENSIONS	PEV S27: 105 x 110 x 71 mm CONSOLE: 93 x 37 x 23.1 mm
WEIGHT	0.5 kg
DISPLAY PROTECTION RATING	IP65
POWER SUPPLY	24 V AC/DC $\pm 10\%$ 50/60 Hz
LOAD TYPE	SINGLE-PHASE
WORKING TEMPERATURE	$-5 \div +50$ °C
STORAGE TEMPERATURE	$-10 \div +70$ °C
RELATIVE AMBIENT HUMIDITY	< 90% RH
COMPONENT STATUS INDICATOR	LED + DISPLAY
ALARM SIGNALS	LED + BUZZER
INPUTS	
DIGITAL INPUT	N°2 CONFIGURABLE
INTAKE PROBE	NTC 10 k Ω / PT1000 / PTC
EVAPORATION PRESSURE PROBE	4-20 mA
OUTPUTS	
ELECTRONIC EXPANSION VALVE	STEPPER BIPOLAR
ALARM RELAY	PRESENT
SUPERVISION SYSTEM	TELENET / MODBUS - RTU
ACCESSORIES	
ACCESSORIES AVAILABLE	NANO BOX NANO ADAPTER

PEV S27

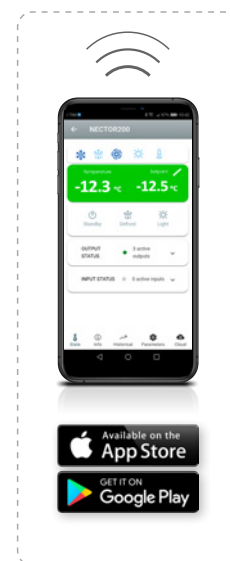
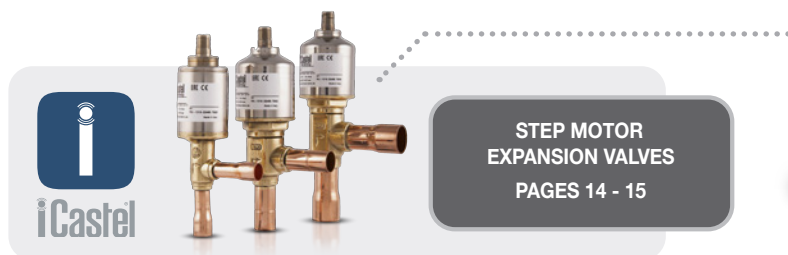
CONSOLE


CONNECTION CABLE

PEV S27


NEXUS S27

Electronic regulator for controlling the motorized electronic expansion valve, with integrated connectivity functions through the **MyPego** app. Manages the most common bipolar stepper electronic expansion valves for evaporator overheating management.



APPLICATIONS

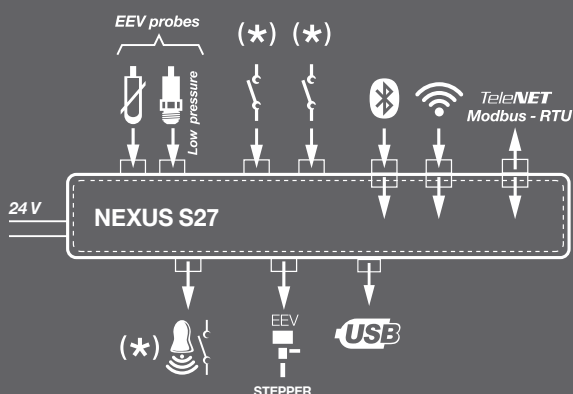
- Refrigerated counters and cold room.

MAIN CHARACTERISTICS

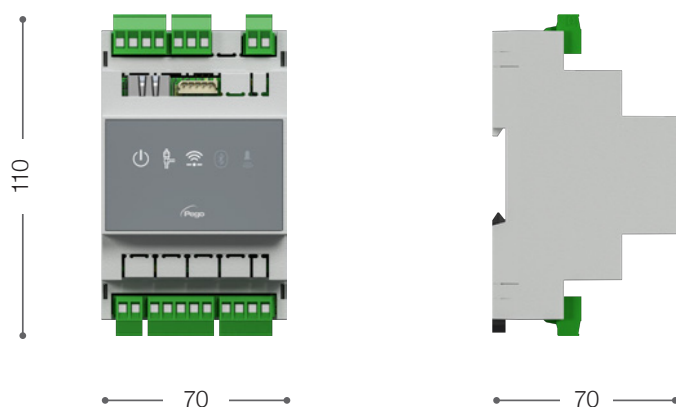
- Bluetooth, WiFi and ethernet connectivity for interaction with the driver and diagnostics by the installer.
- No on-board display. The MyPego APP is used for programming. It is possible to connect an external display with IP65 protection, as a service terminal.
- Control of the bipolar motorized electronic expansion valve.
- Compatible with 23 gas types: R404, R134, R22, R407A, R407F, R407H, R410A, R450A, R507, R513A, R744 (CO2), R449A, R290, R32, R448A, R452A, R600, R600A, R1270, R1234ze, R23, R717 (NH3), R454C.
- Software update via USB.
- RS485 serial connection with TeleNET or Modbus protocol can be selected by parameter.
- Two configurable digital inputs.
- Intake temperature and evaporation pressure probe for evaporator overheating management.
- Easy parameter programming with 4 pre-configurations for the different applications of the electronic expansion valve.
- Plastic container for DIN bar for 4 DIN modules.

CONNECTION DIAGRAM

(*) = Configurable function



NEXUS S27



TECHNICAL CHARACTERISTICS	NEXUS S27
DIMENSIONS	NEXUS S27: 110 x 70 x 70 mm
WEIGHT	0.5 kg
DISPLAY PROTECTION RATING	IP65
POWER SUPPLY	24 V AC/DC $\pm 10\%$ 50/60 Hz
LOAD TYPE	SINGLE-PHASE
WORKING TEMPERATURE	$-5 \div +50$ °C
STORAGE TEMPERATURE	$-10 \div +70$ °C
RELATIVE AMBIENT HUMIDITY	< 90% RH
COMPONENT STATUS INDICATOR	LED + DISPLAY
ALARM SIGNALS	LED + BUZZER
INPUTS	
DIGITAL INPUT	N°2 CONFIGURABLE
INTAKE PROBE	NTC 10 k Ω / PT1000 / PTC
EVAPORATION PRESSURE PROBE	4-20 mA
OUTPUTS	
ELECTRONIC EXPANSION VALVE	BIPOLAR STEPPER
ALARM RELAY	PRESENT
ACCESSORIES	
ACCESSORIES AVAILABLE	NANO BOX NANO ADAPTER
CONNECTIVITY	
RS485 SERIAL	MODBUS-RTU / TELENET
BLUETOOTH	BLE LOW ENERGY
WIFI	802.11 B/G/N (2.4 GHZ) UP TO 150 Mbps
ETHERNET	10/100 Mbps

NEXUS S27



STEP MOTOR EXPANSION VALVES



Castel stepper motor expansion valves are lamination devices that receive the liquid from the condenser and inject it into the evaporator, operating the necessary pressure drop across the expansion orifice by adjusting the value of the superheat in the evaporator itself. Continuously adjustable valves are equipped with a linear stepper motor, whose positioning is controlled by an external electronic device called a “driver”.



APPLICATIONS

The Castel control valve has been designed to work with a reduced number of steps. Thanks to this feature, the valve is able to quickly react to system fluctuations. The quick response time enables the valve to keep the superheat in the order of 0,5°C. Thanks to the easy installation and composition, Castel expansion valves are compatible with all drivers available on the market and managed by any logic of the command system.

Castel stepper motor expansion valves regulate the flow of refrigerant liquid into evaporators, by modulating the opening and closure of the shutter into a calibrated orifice, allowing a wide range of power variation. These are angle valves that permit the bidirectional flow of the refrigerant, ensuring a high precision and reliable control in both directions and contribute to increase the efficiency of the entire refrigerating system.

The valves are available in three size that are related to the size of the valve body.

Each “Body Size” has different calibrated orifices covering three ranges of power gradually increasing; the overall range of power is from 22 to 90 kW, taking as reference the refrigerant R410A.

Stepper motor expansion valves can be used in a wide range of applications as listed below:

- Refrigeration systems (supermarkets)
- Air conditioning systems
- Heat pump systems

MAIN CHARACTERISTICS

- This device carries out the calculation of superheat by the reading of the pressure and temperature transducers at the evaporator outlet and in turn generates a signal sent to the stepper motor that is transformed into movement/positioning of the valve stem.
- For this reason the stepper motor expansion valve is able to provide a very accurate regulation of refrigerant flow and is, therefore, able to control the value of superheat even under strong thermal load changes, or under large power variation of the refrigeration cycle.

Stepper drive

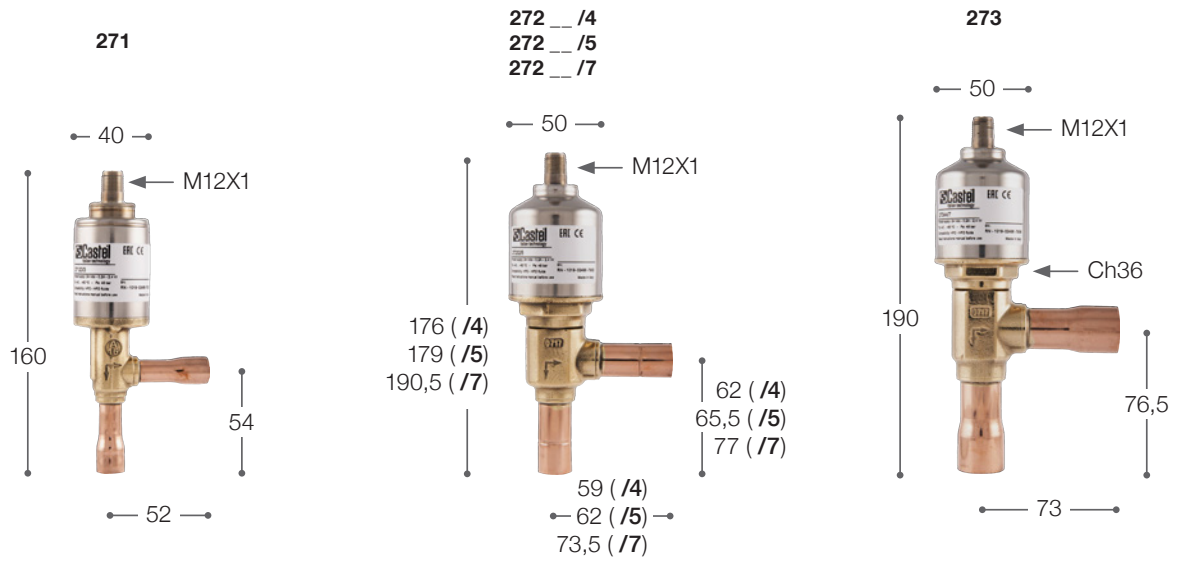
A stepper motor is an electromechanical device that converts electrical pulses into discrete mechanical movements. The shaft or spindle of a stepper motor rotates in discrete increments when electrical command pulses are applied to it in the correct sequence.




The sequence of the pulses is directly related to the direction of rotation of the motor shaft.


While the frequency of the input pulses is directly related to the speed of rotation of the same.

The rotation of the motor shaft causes the rotation of the nut screw integrated with the shaft itself, inside which moves the threaded screw of the shutter.

This system of screw/nut screw ensures the transformation from rotary motion into a translational movement, whose positioning precision depends either on the pitch angle of the screw, or from the coupling precision of the system for converting the motion.



DRAWING	PART NUMBER	CONNECTIONS				PS	TS [°C]		VOLTAGE	POWER	STEP	IP
		Ø (in)		Ø (mm)			Min	Max				
		IN	OUT	IN	OUT		Min	Max	V	W	N°	IP
	27115/3	3/8"	3/8"	-	-	50	-40	+60	6	2,4	415	IP65
	27115/M10	-	-	10	10							
	27115/M12	-	-	12	12							
	27115/4	1/2"	1/2"	-	-							
	27120/3	3/8"	3/8"	-	-							
	27120/M10	-	-	10	10							
	27120/M12	-	-	12	12							
	27120/4	1/2"	1/2"	-	-							
	27127/3	3/8"	3/8"	-	-							
	27127/M10	-	-	10	10							
	27127/M12	-	-	12	12							
	27127/4	1/2"	1/2"	-	-							
	27232/M12	-	-	12	12	50	-40	+60	9	5,4	415	IP65
	27232/4	1/2"	1/2"	-	-							
	27232/5	5/8"	5/8"	16	16							
	27232/7	7/8"	7/8"	22	22							
	27236/M12	-	-	12	12							
	27236/4	1/2"	1/2"	-	-							
	27236/5	5/8"	5/8"	16	16							
	27236/7	7/8"	7/8"	22	22							
	27340/7	7/8"	7/8"	22	22	50	-40	+60	9	5,4	415	IP65
	27340/9	1.1/8"	1.1/8"									
	27344/7	7/8"	7/8"	22	22							
	27344/9	1.1/8"	1.1/8"									

DRAWING	PART NUMBER	DEGREE OF PROTECTION	CABLE LENGTH	CONNECTOR
	9901/X08	IP 65	3 m	M12 Circular connector
	9901/X20		15 m	



Via Piacentina 6/b
45030 Occhiobello (Rovigo) Italy
☎ (+39) 0425 76 29 06
✉ info@pego.it
🌐 pego.it



The images and technical characteristics
described in this book are purely indicative.
Pego is not responsible for any changes
following the publication of this volume.

© COPYRIGHT 2023 PEGO ALL RIGHTS RESERVED

DRIVER01-2023-EN