



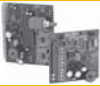



Components and Accessories

Product	Parker Part Number	Description
	PSD4BX3	Superheat Controller no display
	PSD4DF3	Superheat Controller with LCD display & Modbus - Canbus
	(x) insert communication option S = Stand alone, C = CANbus, M= Modbus, I = Intrabus	
	EVTPN530F202	Temperature probe, NTC 103 AT-2, -50°C to 110°C, 3 m long
	EVPT5108	Fast response Pressure Transducers, 2 wires 4/20mA, 0 to 8 bar, 8 to 28 VDC
	EVPT5130	Pressure Transducers, 2 wires 4/20mA, 0 to 30 bara, 8 to 28 VDC
	PSPTB0008C1GB	Pressure Transducer 4-20 mA -1 to 8 bar
	PSPTB0015C1GB	Pressure Transducer 4-20 mA -1 to 15 bar
	PSPTB0030G1GB	Pressure Transducer 4-20 mA 0 to 30 bar
	983189	IB2Q Interface Board (2500 steps)
	952960	IB6Q Interface Board (6386 steps)
	953276	SMA-12 Step Motor Actuator / Test instrument

For further information on the electronic controller please refer to chapter 2 and 3.

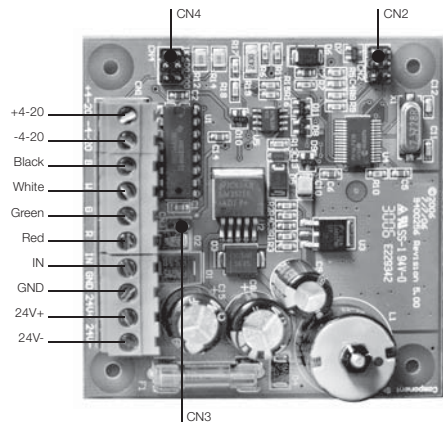
SMA-12 Stepper Motor Actuator

The SMA-12 is designed to diagnose systems with stepper motor valves by proving operation of the stepper motor. The unit is powered by two 9 Volt alkaline batteries and will power any standard 12-Volt DC bipolar step motor. Step rate is selectable at 1, 50, 100 or 200 steps per second and will stroke the motor in both directions. Red lamps indicate continuity of the motor windings and battery power, and binding posts provide quick connection of the motor leads. In the event of a controller failure, the SMA-12 can manually open or close the valve or step it to any position. The SMA-12 is the basic troubleshooting tool for all step.



IBQ Interface Board

The IBQ interface board allows the Parker Sporlan electric expansion valves stepper motor to be modulated in response to an externally generated signal. The IBQ accept a 4-20 mA, or 0-10 Volt DC inputs and stroke the valve proportionately to that signal. While the IBQ will control Parker Sporlan's line of SER, SERI and SEHI stepper motor electric expansion valve, an external signal must be generated in response to superheat.



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Superheat Controller

Bipolar stepper motor driver
for Parker Sporlan Electric Expansion Valves



ENGINEERING YOUR SUCCESS.

PSD4

Superheat Controller for Bipolar Electric Expansion Valve

Stepper motor driver to control Parker's range of SER & SEH Electric Expansion Valves



The **PSD4** stand alone, bipolar stepper motor driver, has been designed to work with Parker Sporlan's family of, **SER** and **SEH** Electronic Expansion Valves, to control the superheat. The PSD4 improves the superheat by controlling the difference between the actual temperature and the saturation temperature of the refrigerant.

If the valve should lose power, the electronic expansion valve needs to close to avoid liquid refrigerant flood back to the compressor, for this reason each valve can be delivered with a battery back up unit, type PSS4B.

The standard stand alone **PSD4**, has no display but is available with a communication port. Programming can be done by connecting **PSKEY**, for fast download or upload of parameters, via the on board programming port, or from the hand held LCD programming tool, **PSV4GBR**, which can also be used for trouble shooting.

Network communication options are available. The **PSD4** can be ordered with the following protocols cards fitted, Modbus RS485, CanBUS, & Intrabus.

PSD4 is ideal for air conditioning and refrigeration application such as: air conditioning, chillers, heat pumps, packaged rooftop units, process cooling, and cold room.

Please contact your sales representative to check availability of this product. Thank you.

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Super Heat Controller

PSD4.....2 - 032

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Refrigeration & Air Conditioning

PSD4 Super Heat Controller

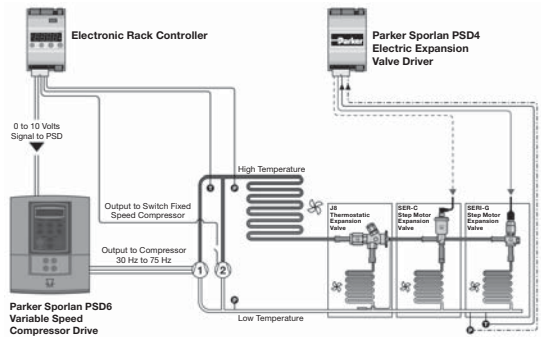
Parker Sporlan **PSD4 Super Heat Controller** provides a complete solution for controlling the Superheat in air-conditioning and refrigeration applications.

Benefits:

- 65 years of manufacturing high quality refrigeration components
- Experience you can rely on, 10 years development of valves & super heat controllers
- Improved evaporator performance, with matched valves & controller, lowering energy costs
- Widest range of cooling capacity, from SER family of electric expansion valves up to 2000 kW (SEH)



Drive Systems for Refrigeration Compressors and Condenser Fans



- Outputs bipolar stepper for Parker Sporlan EEV
- Voltage supply 24 VAC +10% -15%
- 50/60 Hz +/- 3 Hz
- Ambient temperature range -20 to +60 °C (@r.H < 95% non-condensing)
- Protection IP20 (with connectors fitted)
- DIN rail mounting EN60715
- CE & Low Voltage Directive EMC 2006/95/EEC / 2004/108/EC
- Safety & Conformity - EN60730 / IEC 60730-1
- UL & CSA - UL 60730-1A / CSA 60730-1
- RoHS & WEEE - 2002/95/EC / 2002/96/EC

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Options

EVPT5108

Steel Pressure transducers, 0.5 to 8 bar working pressure, power supply 8-28 VDC, 4-20 mA output 2 wire. 7/16" male - 20 UNF threaded tip

EVPT5130

Steel Pressure transducers, 0 to 30 bar working pressure, power supply 8-28 VDC, 4-20 mA output 2 wire. 7/16" male - 20 UNF threaded tip

EVTPN530F202

Fast response temperature Probes NTC 10kOhm @ 25°C Overmoulded bulb -50 to 110°C

PSPTB0008C1GB Pressure Range -1 to 8 barg

PSPTB0015C1GB Pressure Range -1 to 15 barg

PSPTB0030G1GB Pressure Range 0 to 30 barg

PSPTB0050G1GB Pressure Range 0 to 50 barg

Stainless Steel Pressure transducer, power supply 8 to 28 Vdc, 4-20mA output 2 wire. 7/16" 20 UNF threaded tip female connection, including access pin for Schraeder valve.

P2NZ3000

DIN connector for pressure transducer series PSPT

CP2N03000AA25

5 meter PVC cable with DIN connector fitted for transducer series PSPT

PSS4B

SuperCap EEV closing unit (typically < 10 s) if power supply is lost.
Contact Parker-Race for more details.

PSIF20TUXI

TTL/USB serial interface for upload and download of parameters via the programming software

PSKEY10

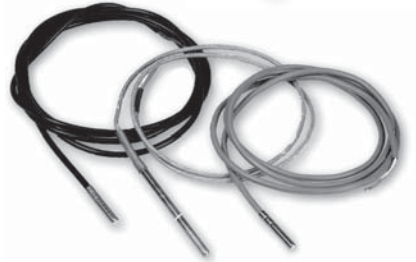
Parameter quick set up key

PSV4GBR

Remote mounting LCD (128 x 64 pixel) programming panel, 118 x 10 mm, RTC, alarm, buzzer, isolated 12-24 VAC/DC power supply mounting accessories available.

PSPS

Power supply for PSKEY10 115-230 VAC / 9 VDC



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Order Selection Guide PSD4

Va. c.	Hz	A/I	D/I	D/O	SO	BS	PP	SP	CB	RS	DP
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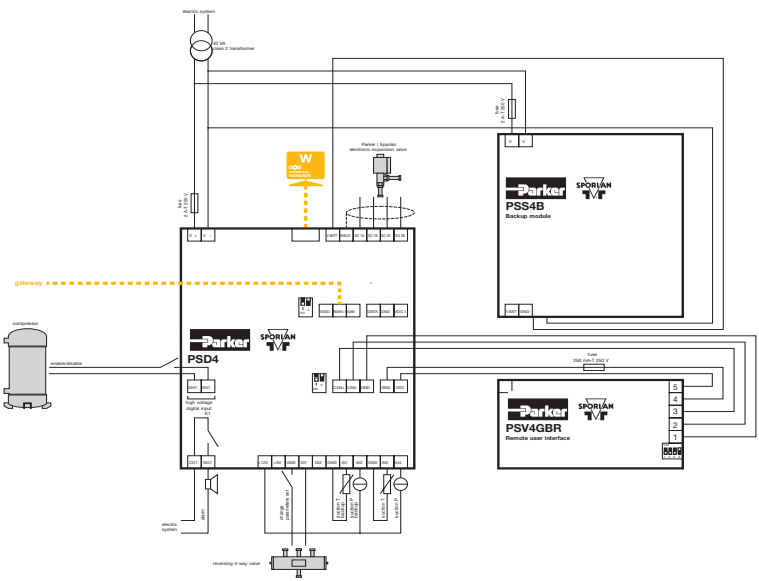
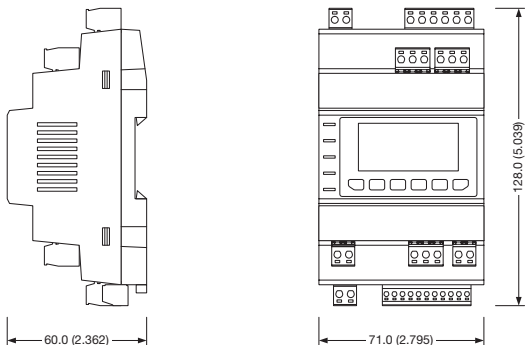
PSD4 Super Heat Controllers NO DISPLAY

PSD4BX3	24	50/60	4	3	1-5 A	1	✓	1	1	-	-	-
PSD4BM3	24	50/60	4	3	1-5 A	1	✓	1	2	-	✓	-
PSD4BC3	24	50/60	4	3	1-5 A	1	✓	1	1	✓	-	-
PSD4BF3	24	50/60	4	3	1-5 A	1	✓	1	3	✓	✓	-

PSD4 Super Heat Controllers DISPLAY

PSD4DF3	24	50/60	4	3	1-5 A	1	✓	1	3	✓	✓	✓
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Key:
 A/I = Analogue input - D/I = Digital Input - D/O = Digital Output - SO = Stepper Output - BS = Battery Back Up - PP = Programming Port - SP = Serial Port - CB = CANBus - IN = INTRABUS - RS = Modbus RS-485 - DP= Display Fitted (LED)* LED.



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SER - SEH

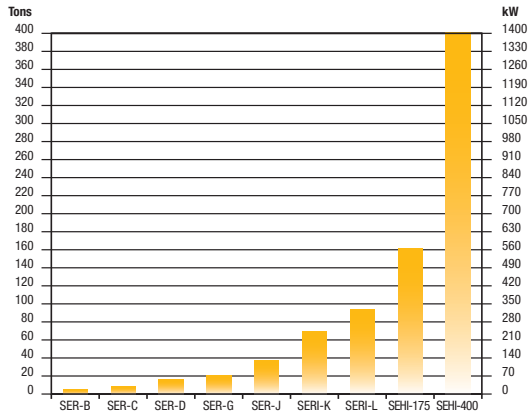
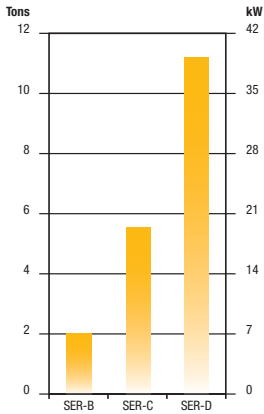
Valves & Driver PSD4



SER - SEH

Electronic Expansion Value Capacity Charts

Capacity



R-407C at 100°F (38°C) liquid, 100 psi (7bar) pressure drop, and 40°F (5°C) evaporator temperature.

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