

## Service – Tool for commissioning of Proportional Valves Prop - Box

### DESCRIPTION

The Prop-Box is a simple tool for the commissioning of proportional valves and continuously adjustable valves with onboard-electronics and central connector according to DIN 43563 (6 pole + PE) for direct control of the electronics - incl. power supply (without bus connection).

In the course of development, we placed particular emphasis on simple operability and comprehensive protective circuits to prevent damages to the valves to be tested/ the Prop-Box.

### FEATURES

The Prop-Box supports service technicians specifically with the following functions:

- Supply voltage control (reverse polarity and voltage level)
- Power supply of prop box and valve via Prop-Box-Supply
- Convenient digital display of setpoint and actual value
- Setpoint setting via potentiometer or connected controller
- Built-in protection function if wrong connected
- Adaptable to all commercially available valves with onboard electronics (OBE)



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## TECHNICAL DATA

General specifications	
Material	Casing: Plastic ABS black Sealing material: NBR (standard)
Weight [kg]	3
Prop-Box-Supply	
Input voltage	90 - 264V; 47 - 63 Hz
Output voltage	24V DC (18 - 30V DC)
Output current [A]	max. 2.5
Connector	including AC-Input Clips for US, India, Brazil, UK, China, Argentina, Europe, Australia, Korea and IEC320 C8
Controller	
Supply voltage	24V DC (18 - 30V DC)
Power input [W]	40 (max. 60)
Input fuse	2.5A PTC
Required main supply fuse [A]	max. 16
Protection class	IP40
Setpoint signals	0 - 10V; -10..+10V; 4..20 mA
Actual value signals	0 - 10V; -10..+10V; 4..20 mA
Shunt in the current loop [Ω]	10
Load resistor can be activated at actual current loop [Ω]	220 (LOOP RES 220)
Option enable signal	24V DC internal resistor 2 kΩ
Display	3½ display digits, 1 digit corresponds to 0.01V / 0.1mA
Display tolerance [%]	±3 from measurement range end value
Ambient conditions [°C]	0...40
Weight [kg]	0.35
Dimensions [mm]	150 x 90 x 60 (without cable)

### Hint

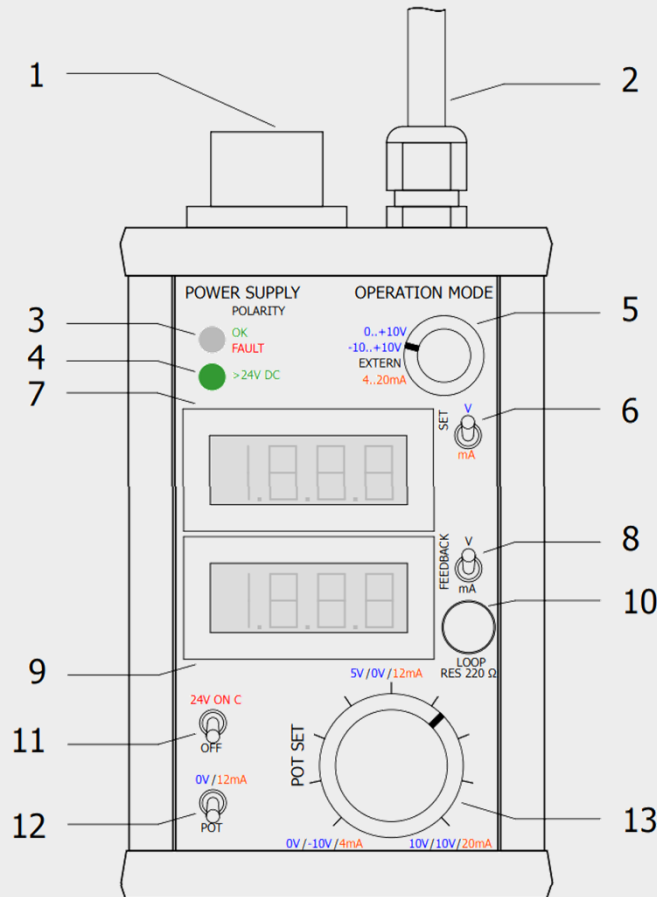
For further details on the connection to the valve, see the associated instruction manual.


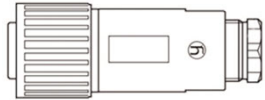
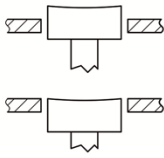
## STANDARD MODELS

Model code	Part No.
Prop-Box*	3904840

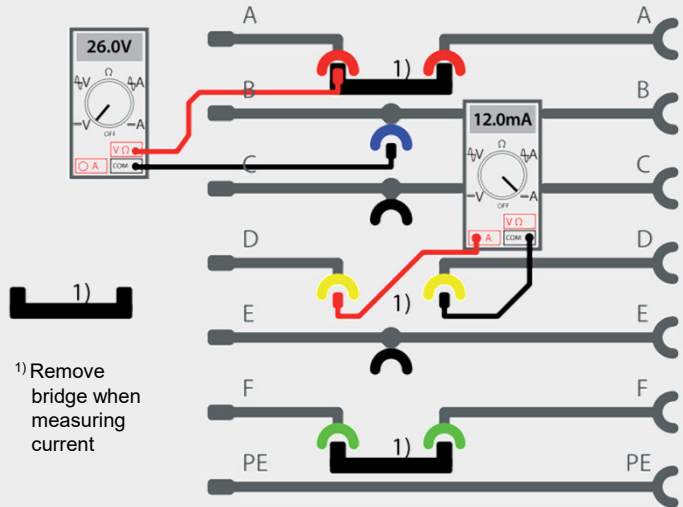
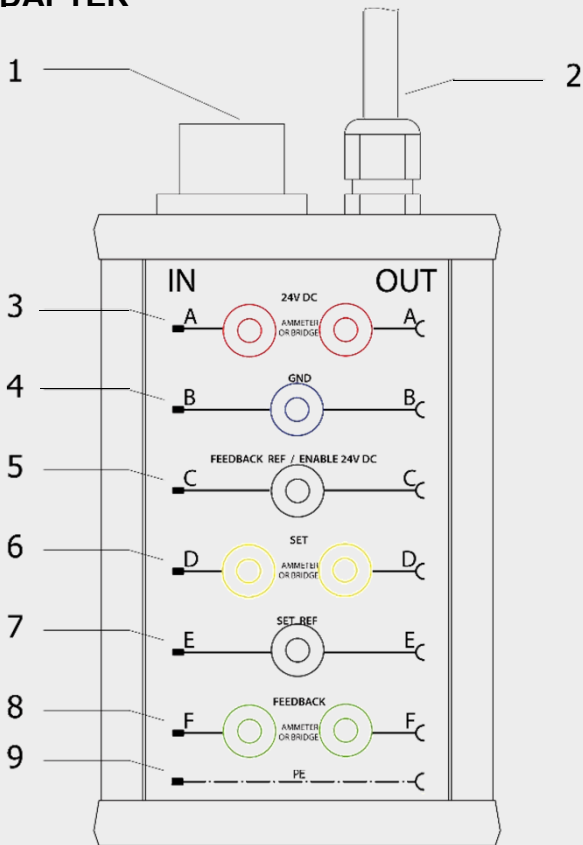
\*Box includes adapter, controller incl. power supply via Prop-Box-Supply with AC input clips or connection cable (24V DC)


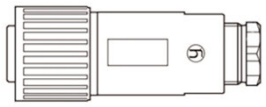
# CONTROLLER



1		„Input connector 1“ Built-in connector with flange 6+PE Hirschmann CM02E14S-61P Item No.: 932455-100
2		„Output connector 2“ Connecting line for continuously adjustable valves 2m with socket 6+PE Hirschmann CM06EA14S-61S Item No.: 932460-100
3	● LED green ● LED red	Supply voltage polarity <b>OK</b> Supply voltage polarity not OK <b>FAULT</b>
4	● LED green	Supply voltage Valve >24V DC ±5%
5	0..10V -10..+10V EXTERNAL 4..20mA	OPERATING MODE SELECTION SWITCH Setpoint setting via potentiometer 0..10V Setpoint setting via potentiometer -10..+10V Setpoint setting EXTERNAL via input connector 1 Setpoint setting via potentiometer 4..20mA
6	SET	V Setpoint display voltage in V mA Setpoint display current in mA
7	Display SET	Digital setpoint display 3½ digit (V or mA) ±3% (from the upper range value)
8	FEEDBACK	V Actual value display voltage in V mA Actual value display current in mA
9	Display FEEDBACK	Digital actual value display 3½ digit (V or mA) ±3% (from the upper range value)
10		Connection load resistor Prop-Box for measurement feedback-signal, with internal setpoint setting (pressure switch, latching) Not pressed: no load resistor in the actual value signal Pressed: 220 Ω load resistor in the actual value signal Valves with current signal on the actual value the value cannot be read without connecting a load resistor. A load in the Prop-Box can be connected via the pressure switch „LOOP RES 220Ω “. This automatically disconnects the actual value signal from the input connector 1.
11	ENABLE 24V ON C	Optional enable signal (24 V) on Pin C. Reference potential for the feedback-signal is the potential of Pin B or E. The enable signal is limited to 12mA (2 kΩ resistance).
12	0V/12mA POT	Fixed setpoint setting of the valve to 0V or 12mA Setpoint setting valve via potentiometer
13	POT SET	Potentiometer for analogue setpoint setting

# ADAPTER



1		„Input connector 1“ Built-in connector with flange 6+PE Hirschmann CM02E14S-61P Item No.: 932455-100
2		„Output connector 2“ Connecting line for continuously adjustable valves 2m with socket 6+PE Hirschmann CM06EA14S-61S Item No.: 932460-100
3	24V DC	Supply voltage 24V DC (0-30V DC)
4	GND	Supply voltage GND
5	FEEDBACK REF / ENABLE 24V DC	Actual value reference(GND) / Enable signal 24V DC
6	<b>SET</b>	Setpoint
7	SET REF	Setpoint reference (GND)
8	FEEDBACK	Actual value
9	PE	Protective Earth

All signals can be picked up by means of the Prop-Box-Adapter via 4mm-sockets.

## PROP-BOX-SUPPLY



Input Signal		90 - 264V; 47 - 63Hz
Output Signal		24V DC
Output current	[A]	2.5
Ripple and interference voltage		240mV pk-pk
Required main supply fuse	[A]	max. 16
Cable	[m]	1.5 (with line socket 6+PE to DIN 43563)
Ambient conditions	[°C]	0...40
Efficiency	[%]	87 - 92
Weight	[kg]	0.3
Dimensions	[mm]	103 x 66 x 40 (without cable)

### AC Input Clips (additionally available)

RPA...US

RPB...Brazil

RPE...China

RPE...Europe

RPH...Korea

RPI...India

RPK...UK

RPN...Argentina

RPS...Australia

RPX...IEC320 C8

### Note

The information in this brochure relates to the operating conditions and applications described. For applications not described, please contact the relevant technical department. All technical details are subject to change without notice.

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