

RT-4WRAE.-2X-40

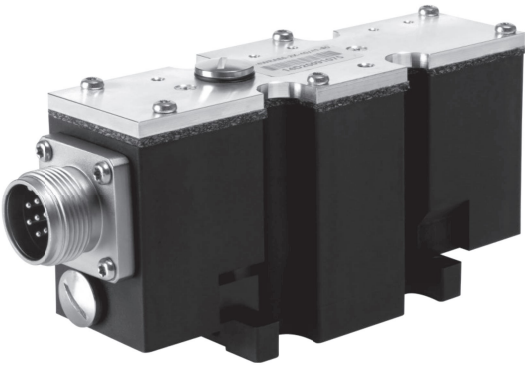
Integrated proportional amplifier without electrical position feedback, double-electromagnet

Design number 40 series

Power supply range: 19~35VDC

Command types: ±10V,4~20mA(confirmed before leaving the factory)

Types of control valves : 4WRAE6 or 4WRAE10



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Features

- Application range: Applicable to controlling 4WRAE6 and 4WRAE10 proportional valves.
- USB interface: A built - in Micro USB interface enables easy connection to a computer for parameter configuration.
- Host computer software: A wide range of parameter configurations can be carried out through the host computer software on the PC side.
- Wide Voltage: Wide voltage input ranging from 19 to 35VDC.

Ordering Model

RT-4WRAE	6	_	-	2X	-	40	/	A1	-	00
01	02	03		04		05		06		07

01	RT-4WRAE	Integrated proportional amplifier,controlling 4WRAE series of proportional valves.
02	6	Size 6
	10	Size 10
03	空	Double-electromagnet (standard type)
	EA or WA	Single electromagnet, compatible with valves of EA or WA functions
04	2X	Proportional valve series number
05	40	The amplifier design number is of the 40 series.
06	A1	The commands are ±10V (for double- electromagnet) and 0 - 10V (for single - electromagnet).
	F1	The command is 4 - 20mA.
07	00	The housing type features 4 mounting holes and has no USB opening (default type).
	01	The housing type features 4 mounting holes and has a USB opening.
	02	The housing form has 2 mounting holes and has no USB opening.

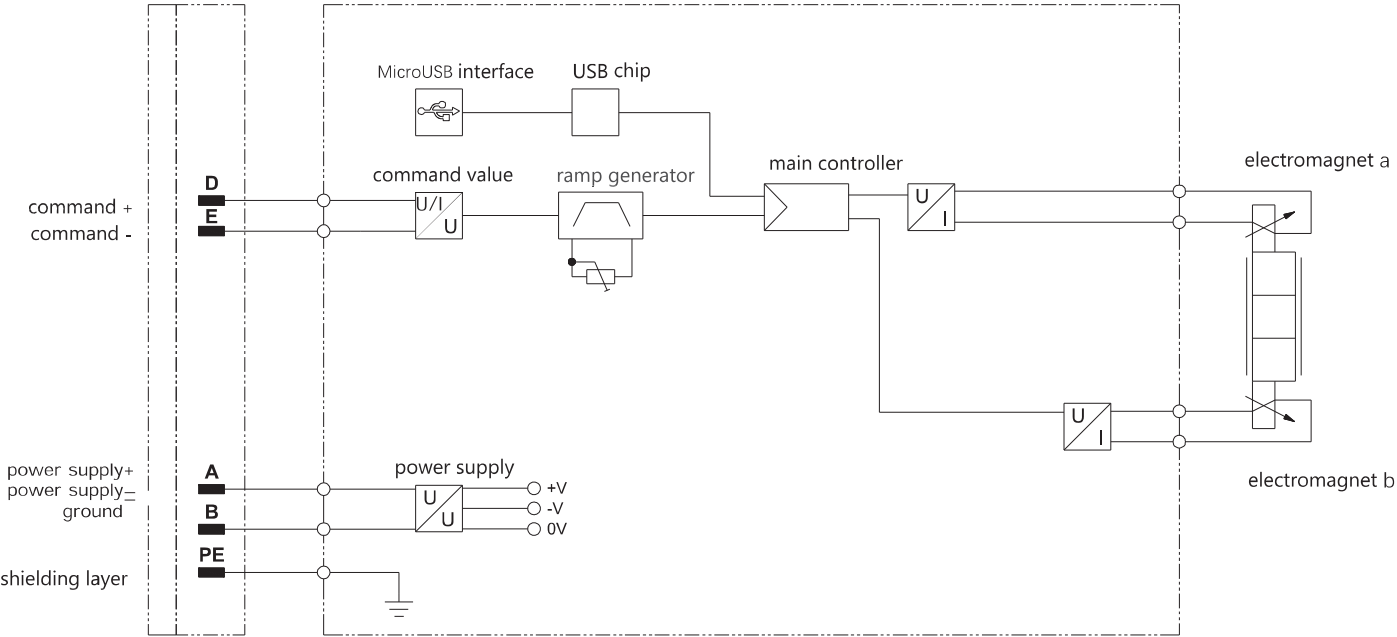
4WRAE

Technical Data

Working Voltage	19~35 VDC (commonly 24VDC)
Maximum Power Consumption	< 45VA
No-load Current	≤100mA (24V)
Differential Signal Input	±10 V (or 0~10V) , input impedance ≥100KΩ 4~20 mA, input impedance=100Ω (Specify before delivery, not switchable on site)
Resolution	≤1 ‰
Nonlinearity	≤1 ‰
Maximum Output Current	Size 6 : 2.8A Size 10 : 3A
Ramp Time	0.01 - 5S (adjustable by potentiometer)
Electrical Connection	Connector,7-pole (6+PE) according to EN 175201-804
Communication Interface	MicroUSB
Communication Protocol	ModBus-RTU
Baud Rate	9600 Baud
PC Software	ACManager
Operating Temperature	-20~80℃
Storage Temperature	-20~85℃
Operating and Storage Humidity	0 %~90 %
IP Rating	IP65

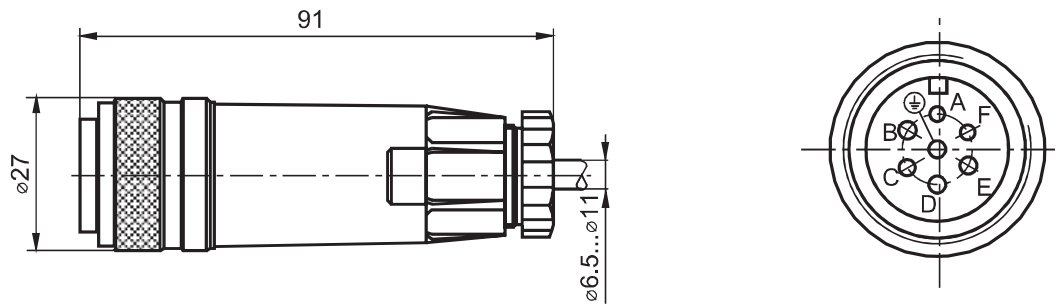
Principle Block Diagram

interface	Integrated proportional amplifier	Valve
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Terminal Definition

The plug complies with the standard DIN EN 175201-804 (see the picture below). It needs to be ordered separately, and the order model is: RT - QXCT.



	Plug	Type A1	Type F1
Power Supply Voltage	A	24VDC (19~35VDC) ; I _{max} =2A	
	B	0V	
	C	Not connected	
Differential Input	D	Set value $\pm 10V$; $R_e \geq 100K\Omega$	Set value 4~20mA; $R_e = 100\Omega$
	E	Reference potential of the set - point value	
	F	Not connected	
	PE	Internally connect to the valve body	

Set Value:

- A positive given input value (0 to +10V or 12 to 20mA) applied to D and E will connect port P of the valve to port A and port B to port T.
 - A negative given input value (0 to - 10V or 12 to 4mA) applied to D and E will connect port P of the valve to port B and port A to port T.
- For valves with a spool structure of EA or WA, applying a positive set value ranging from 0 to +10V to ports D and E (or for a Size 6 valve: 4 to 20mA; for a Size 10 valve: 12 to 20mA) will connect port P of the valve to port B, and port A to port T.
- Note: For amplifiers with a 4 - 20mA command type, if the set value is less than 2mA, the amplifier will determine that the command line is broken. At this time, the output terminal of the amplifier will be powered off, and the valve spool will return to its original position through the spring.

Warning: Wiring the F and C pins is prohibited. ReboTech Company will not assume any liability for issues caused by wiring the F and C pins.

Parameter Table

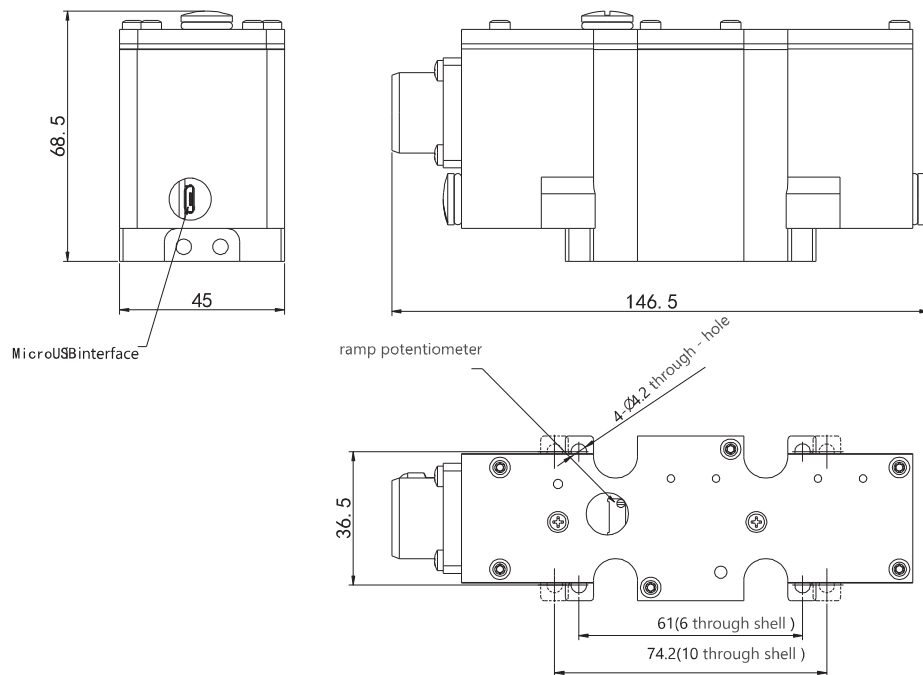
Serial Number	Item	Factory set-Value	Value Range	Unit	Descriptions
1	Flutter Amplitude	-	0~2000	mA	Reasonable setting of this value can reduce the spool jitter and improve the spool response speed.
2	a Minimum Current	-	0~2000	mA	Minimum drive current of electromagnet A (Not Available for EA or WA - type Amplifiers)
3	b Minimum Current	-	0~2000	mA	Minimum drive current of electromagnet B
4	Dead-zone Setting	500	0~1000	Type A1: mV Type F1: μA	recommended to maintain the factory-set values.
5	a Maximum Current	-	0~3200	mA	Maximum drive current of electromagnet A (Not Applicable for EA or WA-type amplifiers)
6	b Maximum Current	-	0~3200	mA	Maximum drive current of electromagnet B
7	Command Zero Point	-0	-30000~30000	Type A1: mV Type F1: μA	Used for zero-position offset compensation.

Note: There is a certain deviation between the maximum current setting value and the actual current value.

This is because the dither amplitude value affects the actual current value, causing the actual current value to be approximately 100 - 200mA lower than the maximum current setting value.

The factory - set values vary according to different valve types. Please refer to the actual shipped products.

Overall Dimensions (Unit: mm)



4WRAE

Name	Description
MicroUSB	Connect the amplifier to a PC using a USB (Type A) to MicroUSB cable, and you can configure relevant parameters in the host - computer software.
Ramp Potentiometer	When rotated counter - clockwise, the ramp time shortens. Conversely, when rotated clockwise, the ramp time lengthens, with a maximum adjustment of up to 5 seconds. The factory - set value is 0.01 seconds.

Precautions

- The MicroUSB interface is located inside the housing. For the amplifier with housing type 01 (which has a USB opening on the housing), you can unscrew the plug to make the connection. As for other amplifiers without a USB opening, you need to remove the six screws on the aluminum panel and take out the amplifier to access the MicroUSB interface for connection.
- The openings on the housing are sealed with PG7 threaded plugs. During use, unscrew the plugs counter - clockwise. After use, please screw the threaded plugs. The amplifier can only be plugged in or unplugged when the power is off!
- When measuring the amplifier, instruments with $R_i > 100k\Omega$ must be used!
- The distance from antennas, wireless power sources and radar equipment must be greater than 1m.
- Don't lay the electromagnet and the command value cables near the power cables!