

Installation Manual Series EC106

Power Amplifier for Pressure-/Flow Valves



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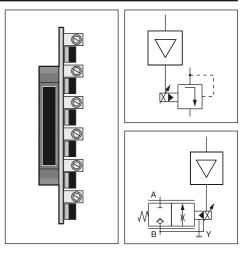
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Electronic module for the control of proportional pressure or flow valves. The pressure-/ flow values are given by externally supplied command signals and internal ramp potentiometers.

Features

- Processing and amplification of externally supplied positive commands into output signals for the control solenoid.
- Up to 6 independent channels for the control of up to 6 valves.
- Each channel is equipped with a slide switch for selection of pressure or flow valve operation.
- · Ramp function
- Pulsed low loss amplifier power stages with supporting constant current control for constant, temperature independent solenoid forces.
- Dither generator with applied frequency to improve static characteristics.

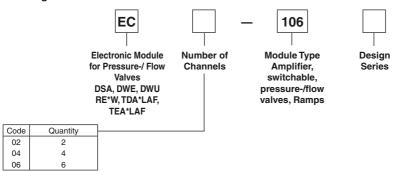




Characteristics

Design		2 channels	4 channels	6 channels		
Supply voltage	[V]	24 ±10%				
Power consumption max.	[VA]	70	125	190		
Command voltage	[VDC]	0+10				
Reference output	[VDC]	10 ±5% / max. 100mA				
Solenoid output current, max.	[A]	2 x 1.3	4 x 1.3	6 x 1.3		
Ramps	[s]	0.0110				
Ambient temperature	[°C]	0+70				
Connection		48pole male connector, DIN 41612F				
Cable connection		Supply connections + valve: AWG15; command inputs AWG20				
Fuse DIN 41571		4A medium lag 6.3A medium lag 10A medium lag				

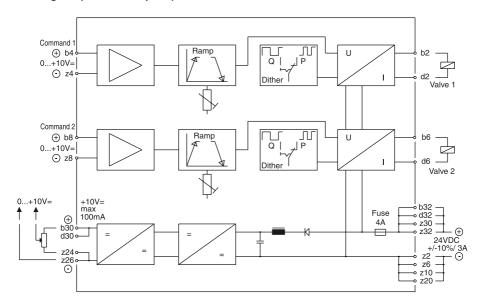
Ordering Code



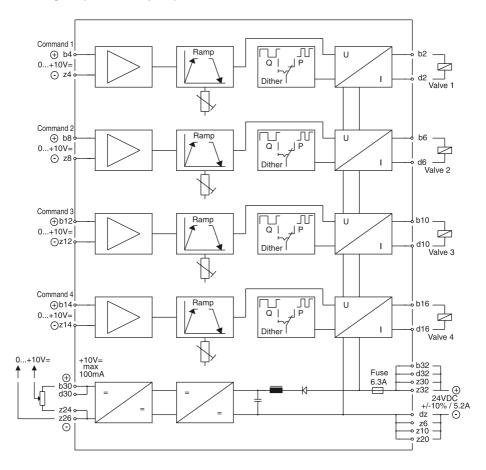
EMC

EN 50081-2	EN 55011					
EN 50082-2	ENV 50140	EN 61000-4-4	ENV 50204	EN 61000-4-5	EN 61000-4-2	EN 61000-4-6

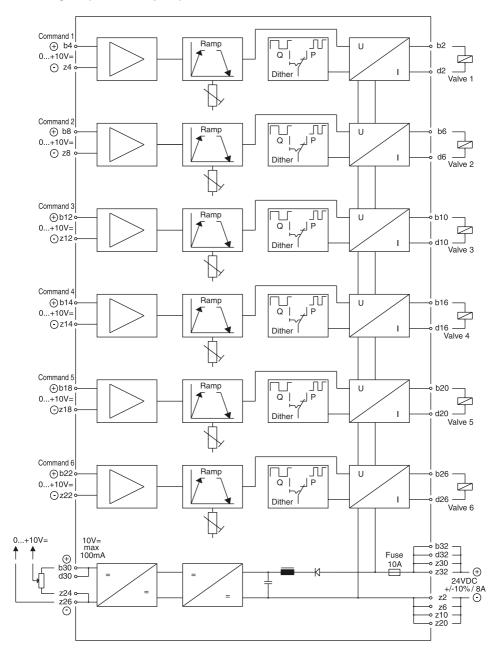
Block Diagram (2 Channel Option)



Block Diagram (4 Channel Option)



Block Diagram (6 Channel Option)





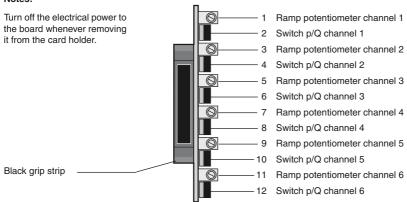
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Connector (Elevation B)

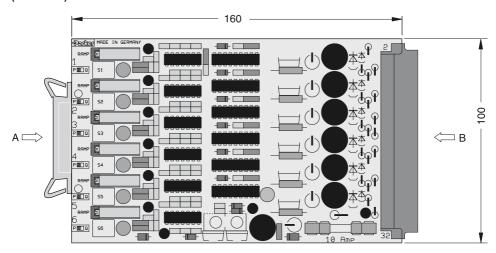
d2	Output solenoid 1	b2	Output solenoid 1	Γ	1 21	z2	0V Supply
		b4	Input command 1 / 0+10V		1 41	z4	0V Command 1
d6	Output solenoid 2	b6	Output solenoid 2		1 61	z6	0V Supply
		b8	Input command 2 / 0+10V		I I 8II	z8	0V Command 2
d10	Output solenoid 3	b10	Output solenoid 3		10	z10	0V Supply
		b12	Input command 3 / 0+10V		12	z12	0V Command 3
		b14	Input command 4 / 0+10V		14	z14	0V Command 4
d16	Output solenoid 4	b16	Output solenoid 4		16		
		b18	Input command 5 / 0+10V		1 18	z18	0V Command 5
d20	Output solenoid 5	b20	Output solenoid 5		20	z20	0V Supply
		b22	Input command 6 / 0+10V		22 24	z22	0V Command 6
					1 1241	z24	0V Reference output
d26	Output solenoid 6	b26	Output solenoid 6		1 1281	z26	0V Reference output
					1 1301		
d30	Output +10V reference	b30	Output +10V reference		1 1321	z30	Input 24VDC supply
d32	Input 24VDC supply	b32	Input 24VDC supply		d b z	z32	Input 24VDC supply
				_		•	

Operating and Diagnostic Elements (Elevation A)

Notes:



Dimensions (Euro card)



Installation guide to electronic modules to provision of electromagnetic compatibility

Power Supply

The utilized power supply has to comply with the EMC-standards.

Relais and solenoids operating from the same supply circuit as the valve electronics have to be fitted by surge protection elements.

Wiring Cable

The wires between the installation site of the module and the peripheral units, as power supply, valve solenoids, command signal source have to be shielded. The following wire sizes must be reached: power supply and solenoids AWG 15, other connections AWG 20. The capacity should not exceed a value of approx. 130 pF/m (wire/wire). The maximum cable length is 50 m. No power current lines may be placed within the wired shielded cables to the electronic module. The cable shield has to be connected to ground at both ends (see also chapter "Grounding"). Please be aware of ground loops.

Installation

The module has to be mounted within a conductive, shielded enclosure. Usable is i.e. an EMC-approved control cabinet. A perfect grounding of the enclosure is mandatory (see also chapter "Grounding").

Grounding

The mounting plate of the valve has to be connected to the grounded metal machine frame. The cable shields must be tied to ground at the control cabinet. A low-ohmic potential compen-sation wire has to be provided between the control cabinet and the machine frame (cable wire >AWG 7 cross section) to prevent ground loops.



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