



Bulletin HY11-5715-486/UK

## Installation Manual Series ET105

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### Power Amplifier for Flow Valves



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**Note**

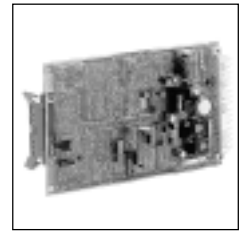
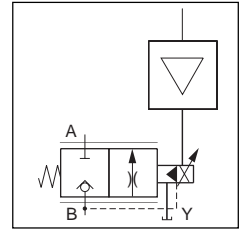
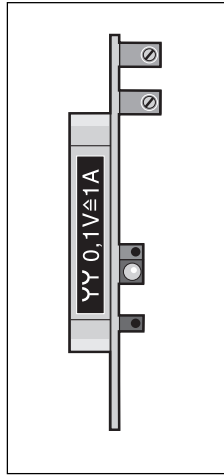
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## Installation Manual

Electronic module for the control of proportional throttle valves. The valve opening and its changes are achieved by externally applied commands well as internal limit potentiometers. The measured value (Volts) on the module is indirectly proportional with the throttle cross-section or alternatively the resulting volume flow Q (l/min).

### Features

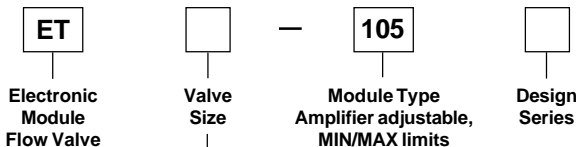
- Processing and amplification of the externally supplied positive commands into output signals for the control solenoid.
- Can be combined with EZ150 or external programmable control.
- MIN/MAX limiters for matching the working range to the full command range.
- Pulsed low loss amplifier power stage with supporting constant current control for constant, temperature-independant, solenoid forces.
- Dither generator with applied frequency to improve static characteristics.
- Diagnosis by means of diagnostic sockets as well as LEDs for indicating working conditions.



### Characteristics

Connection	31 pole male connector, DIN 41617
Power supply	filtered: 22–38V, unfiltered: 18–26V
Command voltage	0 to +10V DC
Power required	40VA
Reference outputs	+10V DC 10mA
Max. solenoid output current	1.05 A at 10 V command
Ambient temperature	0 to 70°C, Standard range
Ramps	not available
Shielded cable connection	Supply connections+valve: AWG15 Commands: AWG20
Fuse	2A medium lag, DIN 41571/5x20 mm

### Ordering Code



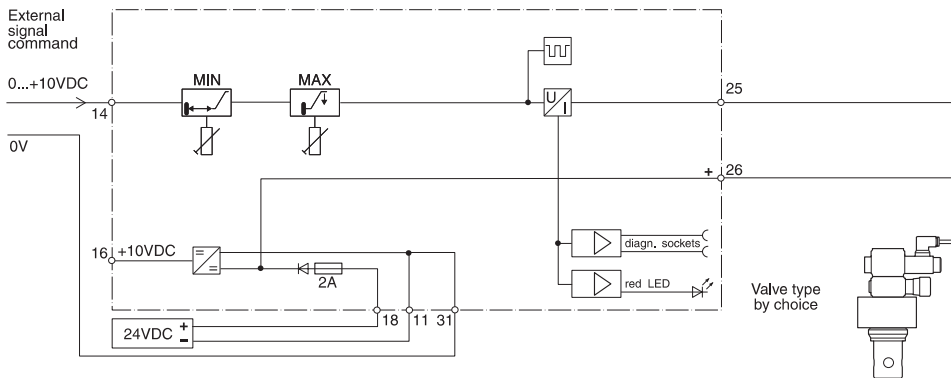
Code	Valve	Sol.
00	TDA...LAF E16 to E 50	35 mm
00	TEA...LAF E16 to E 50	35 mm
99	TDA...LAF E63 to E100	60 mm
99	TEA...LAF E63 to E100	60 mm

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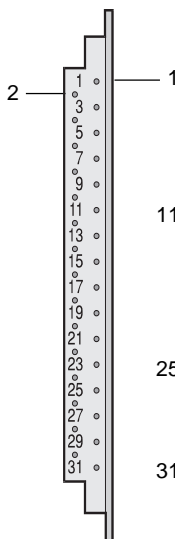
EMC

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



Connector  
(Elevation B)



- 14 Input command voltage 0...+10VDC
- 16 Output +10V reference
- 18 Input 24V DC supply
- 26 Output to control solenoid

- 11 Reference potential 0V supply
- 25 Output to control solenoid
- 31 Reference potential 0V set value

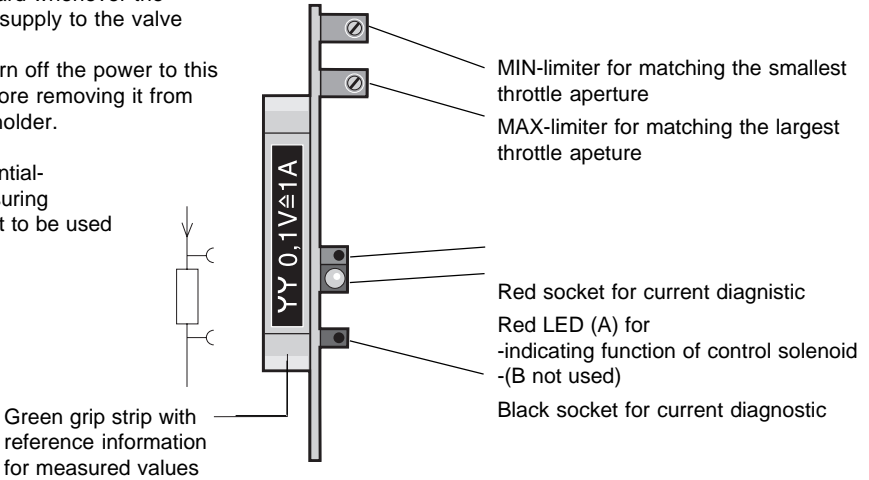
**Operating and Diagnostic Elements  
(Elevation A)**

**Notes:**

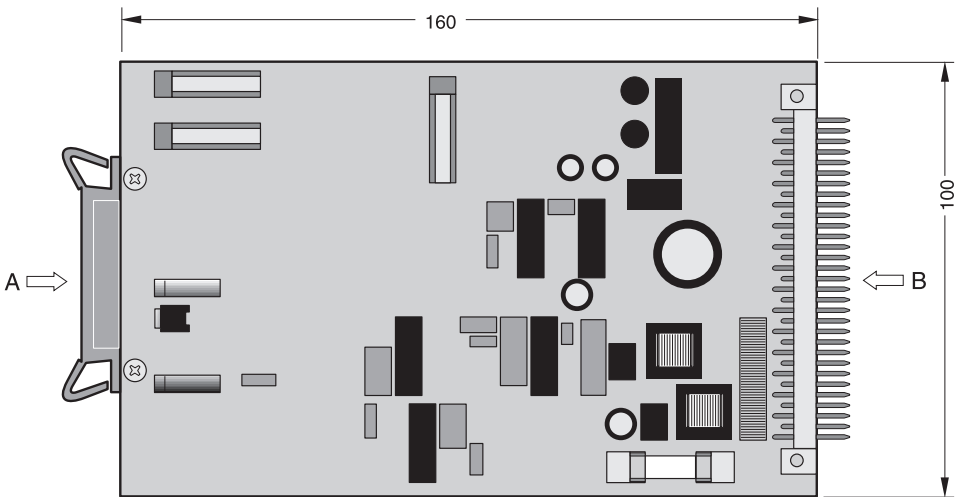
Turn off the electrical power to this board whenever the hydraulic supply to the valve is not on.

Always turn off the power to this board before removing it from the card holder.

Only potential-free measuring equipment to be used



**Dimensions  
(Eurocard)**



**Installation guide to electronic modules to provision of electromagnetic compatibility**

**Power Supply**

The utilized power supply has to comply with the EMC-standards (CE-sign, certificate of conformity).

Relays 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 AWG 16, 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 compensation wire has to be provided between the control cabinet and the machine frame (cable wire >AWG 7 cross section) to prevent ground loops.