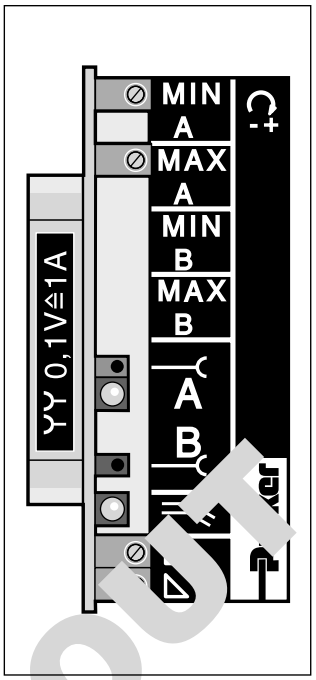
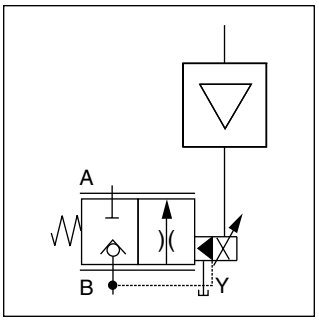
General Description

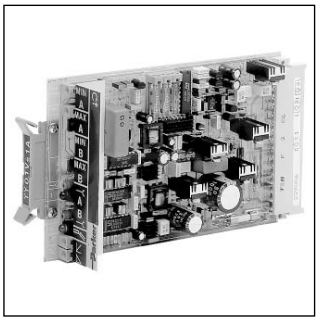
Series ET154 electronic module is used to control TDA and TEA proportional throttle valves configured with the 'M' solenoid option. For valves configured with the 'L' coil option, refer to driver card ET10*. The module accepts a 0 to 10 volt command signal, and produces a proportionally linear output current used to drive the valve's proportional solenoid. Note that the linearity of the valve itself determines the linearity of the system. Refer to the specific valve data for actual linearity performance. Two ramp adjustments provide control of actuator acceleration and deceleration.

Features

- Processing and amplification of the externally supplied positive set-values 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 set value range.
- Pulsed low-loss and very fast amplifier power stage with supporting constant current control.
- Dither generator with applied frequency to improve static characteristics.
- Diagnosis by means of measuring sockets as well as LEDs for indicating working conditions.
- DIP switch from internal ramp generation to external ramp setting.





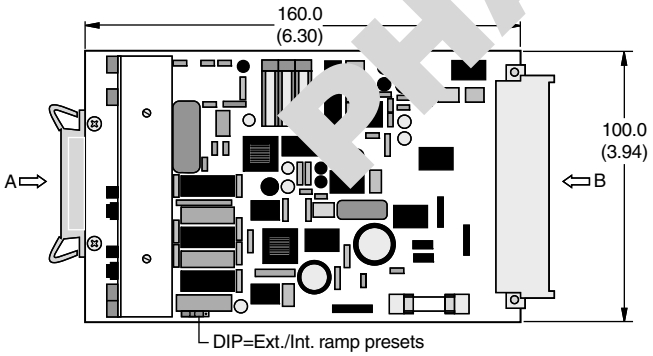


Specifications

Connection	48 Pole Male Connector, DIN 41612F
Power Supply	Regulated: 18-26V Unregulated: 22-38V
Current Required	3.5A max.
Command Signal	0 to +10 VDC
Max. Solenoid Output Current	2.6A at 10V set value
Reference Output	+10 VDC 10 mA
Ambient Temp. Range	0°C to +70°C (+32°F to +158°F), Standard Range
Ramps	0-5 seconds adjustable
Shielded Cable Connection	Supply connections + valve: 1.5 sq. mm (16 AWG) Command Signals: 0.5 sq. mm (20 AWG)
Fuse	1.6A medium lag, DIN 41571/5x20 mm

Dimensions

Inch equivalents for millimeter dimensions are shown (*)



For new applications:
ET154: Refer to PCD00A-400

Ordering Information

ET
Electronic Module
Pressure Valve

Valve Size

Code	Valve	Sol.
00	TDA...MAF E16 to E50	35mm
00	TEA...MAF E16 to E50	35mm
99	TDA...MAF E63 to E100	60mm
99	TEA...MAF E63 to E100	60mm

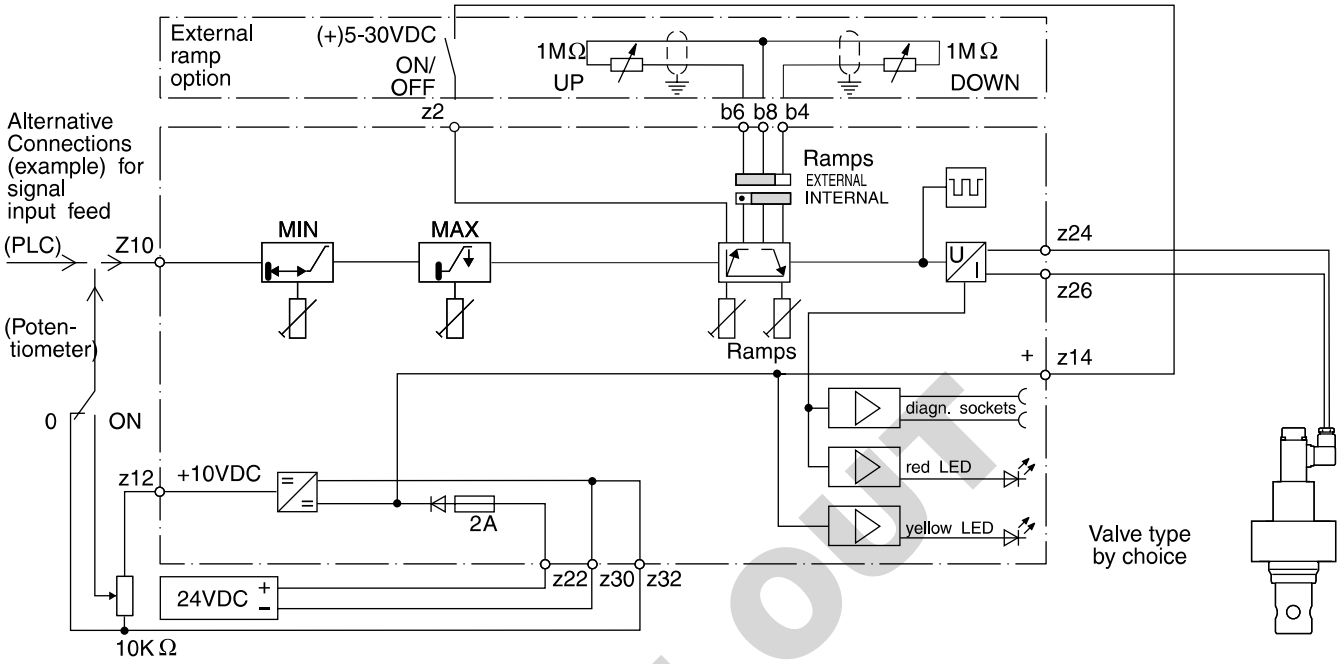
154
Module Type

Code	Description
154	Amplifier, adjustable, MIN/MAX limits UP/DOWN ramps. For valves with 'M' solenoid option.

Design Series

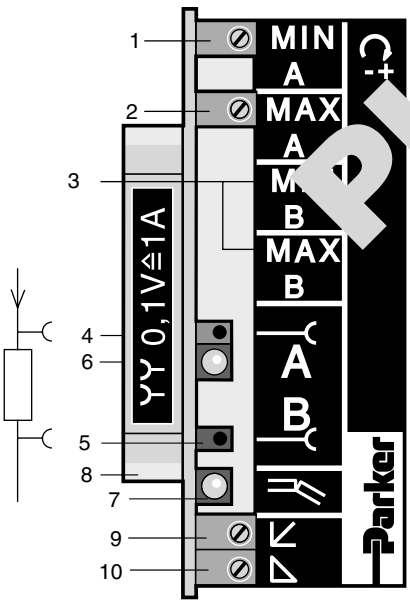
NOTE:
Not required when ordering.

Block Diagram



D

Operating and Diagnostic Elements (Elevation A)



1 MIN-limiter for matching the smallest throttle aperture

2 MAX-limiter for matching the largest throttle aperture

3 (B-information are not used here)

4 Red socket for current diagnostic

5 Black socket for current diagnostic

6 Red LED (A) for:
- function indicator control solenoid
- (B not used)

7 Yellow LED for:
- correct voltage supply

8 Green grip strip with reference information for measured values

9 UP ramp potentiometer

10 DOWN ramp potentiometer

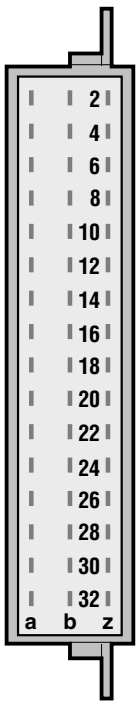
Only potential-free measuring equipment to be used

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.

ET154.p65, dd, an

Connector (Elevation B)



z2 Ramp disable
z10 Input (+) 0...10V
z12 Output (+) 10V reference
z14 Output 24 VDC ramp disable
z22 Input 24 VDC supply
z24 Output control solenoid
z26 Output control solenoid
z30 Reference potential 0V set-value
z32 Reference potential 0V supply

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