

## **Integrated Proportional Amplifier**

RT-(Z) DBEE-1X

Series: 3X

# for valves type (Z)DBEE-1X

## **Block circuit diagram**



### **Function principle**

The control of the integrated electronics is at the two differential amplifier ports D and E.

The ramp generator generates a delayed increase or decrease of the solenoid current from a command value jump (0 to 10 V or 10 to 0 V).

At the potentiometer R14 the increase time of the solenoid current may be set and the decrease time at potentiometer R13.

The maximum ramp time of 5 s is only possible over the complete command value range. With smaller command value changes, the ramp is shortened accordingly

The command value-solenoid current characteristic curve is adjusted to the valve via the characteristic

curve generator in such a way that nonlinearities are compensated for in the hydraulics and thus a linear command value-pressure characteristic curve is formed.

The current controller controls the solenoid current independent from the solenoid coil resistance.

At the potentiometer R30 the increase of the command value-current characteristic curve and thus also the increase of the command value pressure characteristic curve of the proportional pressure valves may be altered

The potentiometer R43 is used for the setting of the bias current.

This setting should not be altered. If necessary, the

zero point of the command value-pressure characteristic curve may be set at the valve seat. The power stage of the electronics for the control of the proportional solenoid is formed by a chopper amplifier. It is pulse width modulated with a pulse frequency of 300 Hz.

Potentiometer R30 and R43 have been set up at the factory, if you change settings of these potentiometers and jumpers, the warranty will become void!

#### **Odering code**



### Plug wiring diagram

Plug-in connector to DIN EN 175 201-804(See below).



#### Plug wiring diagram

Supply voltage	A	19 to 35VDC
	В	0V (GND)
	С	N.C.
Differential	D	Comm. value +10V; Re>50kΩ
amplifier input	E	Reference
	F	N.C.
	PE	Connected with cooling body and valve housing

#### Supply voltage

0.75mm<sup>2</sup> 30 Power supply with rectification î One-phase rectification or three-phase bridge: Min. supply voltage in V 28 U<sub>eff</sub> = 19 to 35 V 1mm<sup>2</sup> Residual ripple factor at power supply: < 5 % Output current: leff = max. 1.4 A 26 Supply cable: - Recommendation 5 core 0.75 or 1 mm<sub>2</sub> with protective conductor and screen 24 - External diameter 6.5 to 11 mm - Screen on 0 V supply voltage 22 - Max. permissible length 100 m The minimum supply voltage at the power supply 20 40 60 80 100 depends on the length of the supply cable (see diagram). Length of supply cable in m -With lengths > 50 m a capacitor of 2200  $\mu$ F must be installed near