

HART® to PROFibus® DP gateway, the T501



Summary:

- ◆ DIN rail mounted module
- ◆ PROFibus DP device
- ◆ PROFibus PA profile 3.0
- ◆ Any HART transmitter may be connected
- ◆ PROFibus DP V1 services supported
- ◆ Change address function is supported
- ◆ Optional bus terminator included
- ◆ Supports up to 4 HART instruments
- ◆ One dynamic variable (Primary variable) per instrument
- ◆ Completely plug and play
- ◆ HART Master- PROFibus dp slave
- ◆ Automatic baud rate detection
- ◆ Pluggable screw terminals for easy and safe cable termination



General description

The **T501** is a **DIN rail mounted module** for interfacing up to four HART transmitters to a PROFibus DP network. Both current sinking and current sourcing HART transmitters are supported.

The **T501** will automatically detect the connected multidrop HART instruments at power-up. No configuration is required.

The HART instruments must be preconfigured to multidrop and be given addresses in the range 1 - 16. The **T501** will automatically establish connection to the HART transmitter at power-up. When the HART instrument is detected, key parameters are read from the instrument and will be visible on the PROFibus side. The **T501** will read Unit codes, sensor limits and range values from the HART transmitters. These values will be available on PROFibus from a Master Class two using DP V1.

The **T501** supports the PROFibus PA profile 3.0. The **T501** supports four AI Function Blocks, one for each instrument.

By reconfiguring the **T501** it is possible to read four dynamic variables from one instrument. The latter application will require use of a configuration tool or the **T501** can be ordered preconfigured from FINT.

The HART instrument may be powered through the **T501**. **T501** has a separate 24 V input for this.

The HART support is limited to the Universal commands. The **T501** does not support configuration of the HART transmitter through PROFibus.

The T501 generates one measured variable including a status variable indicating the quality of the measurement for each HART transmitter. The Primary Variable (PV) will be continuously read and updated.

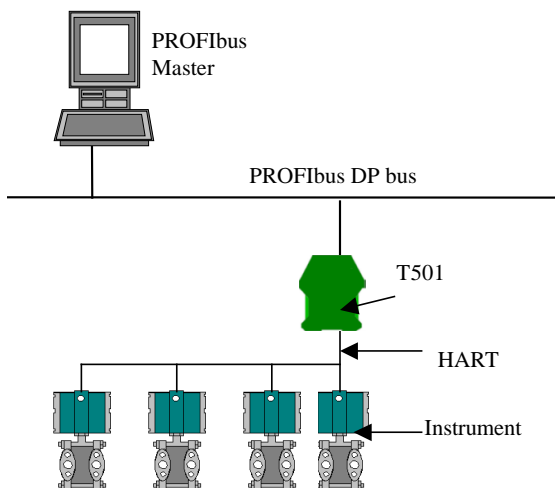
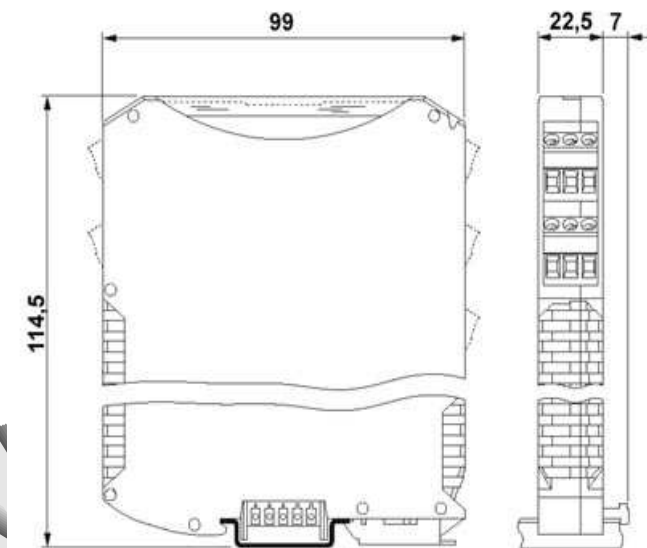
The T501 supports alarm flagging. The user can configure four alarm levels using a standard configuration tool.

The T501 supports low-pass filtering. The user can configure the damping value using a standard configuration tool.

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Current loop connection

Mechanical dimensions

T501 Specifications:

- ◆ Mechanical size 114,5mm x 99 mm
- ◆ Mounting DIN rail
- ◆ Module width 22,5 mm
- ◆ PROFIBus baud rates supported 9.6 kbit/s – 12 Mbits/s
- ◆ Operating temperature range -40 °C to + 85 °C

Screw terminations

Terminal	Connection	Comment
1	24 V	Supply to T501
2	GND	Supply to T501
3	EMC shield	EMC Gnd
4	EMC shield	EMC Gnd
5	24 V	Power fro HART instruments
6	GND	Power fro HART instruments
7	HART shield	EMC Gnd
8	HART shield	EMC Gnd
9, 11, 13, 15	HART +	Connection for instruments
10, 12, 14, 16	HART -	Connection for instruments

PROFIBus DP connection - DSUB 9 connector

Terminal	Connection	Comment
3	Data+	RS485
8	Data-	RS485
6	5V	Bus termination possibility
5	GND	Bus termination possibility