



TUG 4

Temperature or Analog Input Monitoring Unit

APPLICATIONS

The TUG 4 series temperature monitoring unit is designed to accept up to 16 PT100 RTD inputs for the direct measuring of temperatures. Two individually configurable trip levels can be programmed for each sensor. Upon reaching each of these configured levels will energize an alarm relay and a shutdown relay accordingly. Resetting a tripped relay occurs when the measured value returns within range including a hysteresis. An additional alarm relay is provided for a wire break fault.

A two line LC display shows the configured names of the analog measuring inputs. If an alarm occurs, an alarm message is displayed, as well as the value of the input that caused the alarm.

A communication interface can be used to transmit all measuring values, and trip levels to a PC or PLC where evaluation can be done additionally.

DESCRIPTION

Features

- Enable or disable individual inputs
- Individually configurable input names
- Independent monitoring of two configurable trip levels per input
- Configurable offset per input
- Monitoring of wire breaks per input
- Two-line LC display
- Direct implementation of different serial interfaces upon request
- Password protection

VERSIONS

Pt100 measuring range: -10 to 200 °C

TUG 408B

- 8 measuring inputs for Pt100
- 4 configurable relays
- P/N 8441-1128

TUG 412B

- 12 measuring inputs for Pt100
- 4 configurable relays
- P/N 8441-1127

TUG 412B/SU

- features like TUG 412B
- plus CAN bus
- P/N 8441-1142

TUG 412B/SU

- features like TUG 412B
- plus RS-485 Modbus RTU Slave
- P/N 8441-1137

TUG 412B/SU

- features like TUG 412B
- plus Profibus DP
- P/N 8441-1130

TUG 416B

- 16 measuring inputs for Pt100
- 4 configurable relays
- P/N 8441-1133

TUG 416B/SU

- features like TUG 416B
- plus RS-485 Modbus RTU Slave
- P/N 8441-1013

TUG 416B/SU

- features like TUG 416B
- plus Profibus DP
- P/N 8441-1136

- Up to 16 measuring inputs for Pt100 RTDs for display and monitoring in one single digital unit
- Individually configurable tripping levels for each measuring input
- Relay output for alarm, shutdown, wire break, and readiness for operation
- Front panel configurable
- Microprocessor technology for accurate, repeatable and reliable operation
- Password protection
- Interfaces
CAN bus
RS-485 Modbus RTU Slave
Profibus DP

SPECIFICATIONS

Power supply 24 Vdc (+/-25 %)
 Intrinsic consumption max. 10 W
 Ambient temperature -20 to 70 °C
 Ambient humidity 95 %, non-condensing

Analog input freely scaleable
 Resolution 10 Bit
 Type Pt100
 Sensors meas. resistances acc. to IEC 751
 Measurement 2/3-conductor
 Temperature range -10 to 200 °C
 Resolution 10 Bit

Discrete inputs metallically separated
 Input range max. 250 Vac or dc
 Input resistance approx. 68 kΩ

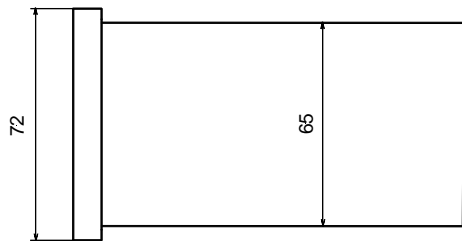
Relay outputs metallically separated
 Contact material AgCdO
 Load (GP) 24 Vdc@2 Adc, 250 Vac@2 Aac
 Pilot duty (PD) 24 Vdc@1 Adc

Interfaces
 CAN bus CAN bus Standard
 Modbus Modbus RTU Slave Standard
 Profibus Profibus DP Slave Standard

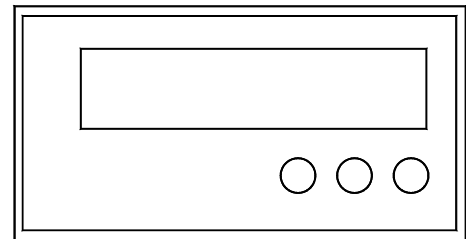
Housing Type APRANORM DIN 43 700
 Dimensions 144x72x118 mm
 Front cutout 138x66 mm
 Connection screw/plug terminals 1.5 mm²
 Front insulating surface
 Protection system IP 21
 Weight depending on version, approx. 800 g

Disturbance test (CE) tested according to applicable EN guidelines

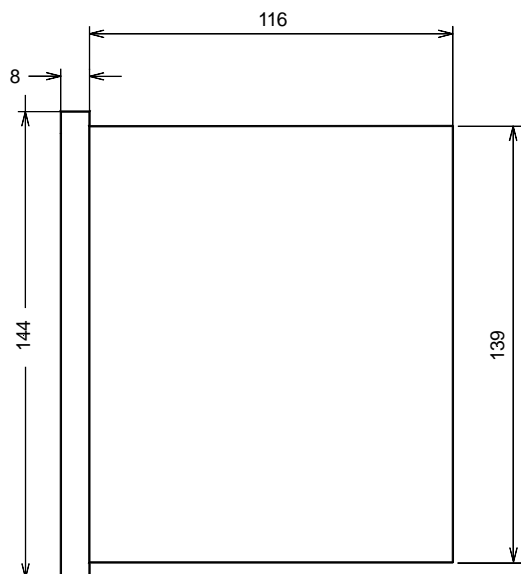
DIMENSIONS



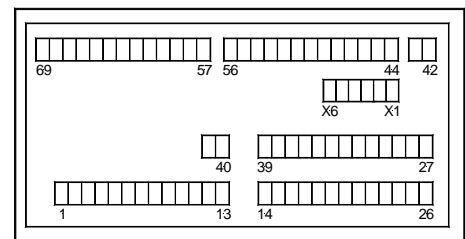
Front view



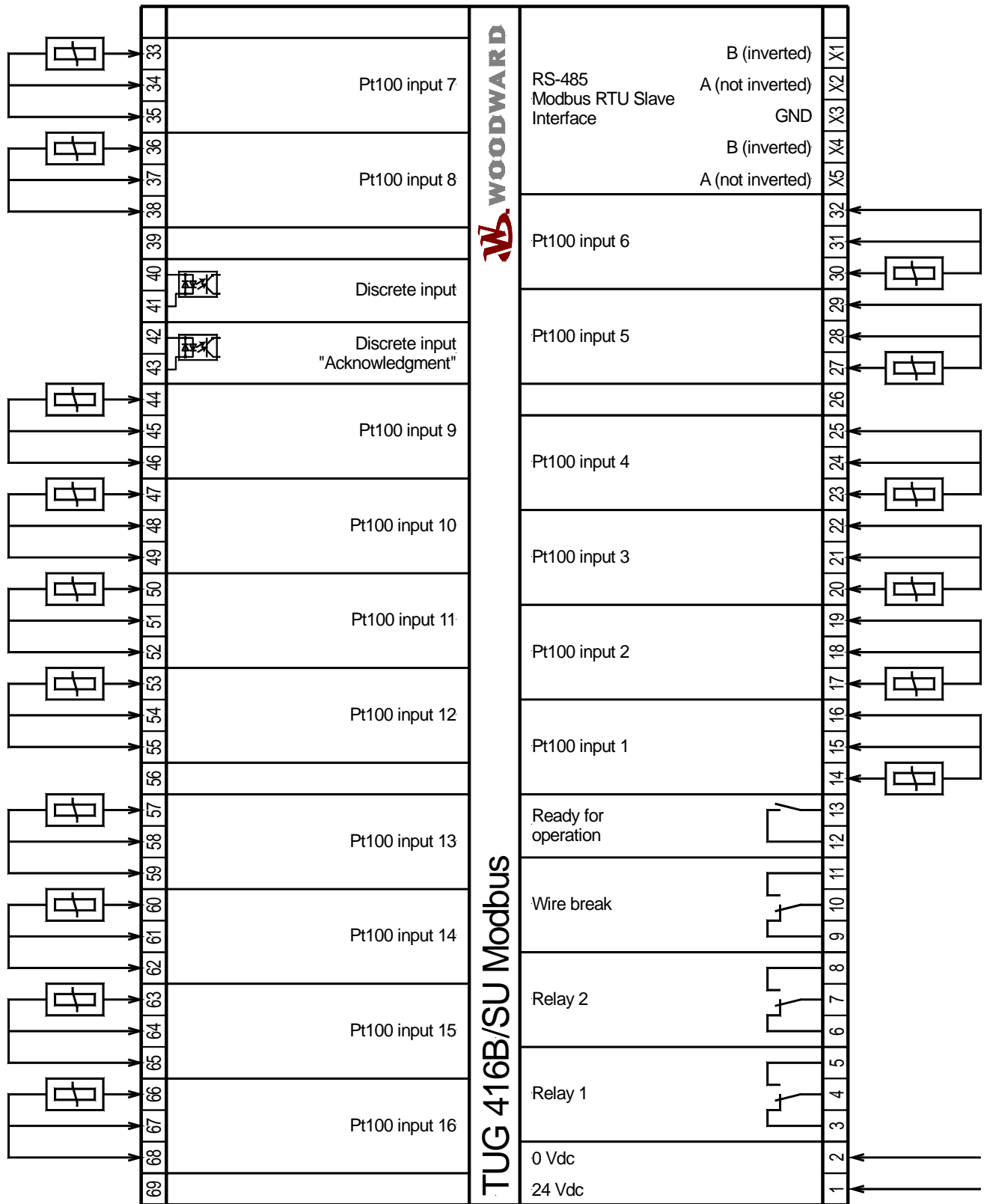
Bottom view



Back view with connecting terminals



WIRING DIAGRAM (example: TUG 416B/SU Modbus; for others refer to manual 37359)



Subject to technical modifications.

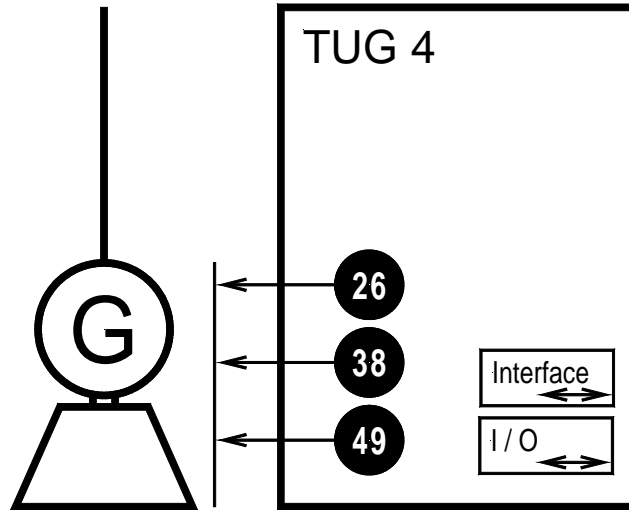
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TYPICAL APPLICATIONS



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