

EVEREST 214-S

Measuring amplifier,
4 limit value relays, pulse timer



INSTRUCTIONS MANUAL

BAMO MESURES

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4 limit value relays
EVEREST 214-S

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Safety Precautions

- Installation, initial start-up and maintenance may only be performed by trained personnel.
- All applicable European and national regulations regarding installation of electrical equipment must be adhered to.
- The device may only be connected to supply power which complies with the specifications included in the technical data and on the serial plate.
- The device must be disconnected from all sources of power during installation and maintenance work.
- The device may only be operated under the conditions specified in the operating instructions.
- Do not open the housing.

1. Functions Description

Measuring amplifier for two sensors with 0/4 to 20 mA signal, 2 or 3-wire connection

- 24 V DC sensor supply power
- Integrated pulse timer, 1 second to 24 hours (example: For MEMPRO ventilation control)
- 2 scalable measurement inputs
- Measurement input E1 or E2 can be individually assigned to each of the output relays, A1 through A4.
- Adjustable delay time for each limit value relay
- Adjustable hysteresis for each limit value relay
- Adjustable filter time from 0.1 to 9.9 s
- Selectable Hold-Function when relay 4 is actuating

2. Technical features

Main power:	100...255 V AC – 50/60 Hz 10...30 V DC
Power consumption:	1...5 W
Ambient temperature:	-10...+45 °C
Limit relays A1, A2, A3:	3 free voltage contacts with same common; Adjustable trigger points, NO/ NC
Limit relay S4:	Free voltage contact; Adjustable trigger points, NO/ NC or set up as a timer (by DIP switch) TIMER Adjustable from 1 s to 24 h
Switching power:	250 V AC / 2 A 30 V DC / 1 A
Caution:	Contacts are not protected against overload – use external protective device
Sensor supply:	24 V DC, max 100 mA for 2 wire sensors
Housing:	IP 40 – dimensions 22.5 x 100 x (h) 122 mm Rail DIN mounting (35 x 7.5 mm - DIN EN 50 022) Contact protection per DIN EN 61010-1 is only assured when installed to a closed housing with at least IP 54 protection.
Electrical connectors:	Terminals screw connectors, max. 1.5 mm ²
Measuring circuit:	2 channels 0/4-20 mA
Accuracy:	Better than 1% ± 0.5 digit
Filter:	Adjustable from 0.1 s to 9.9 s
Hysteresis:	Adjustable from 0 to 99%
Indicator:	2 ½ digit LED display 4 LED relay status (Yellow) 1 LED for each channel (green= channel one; blue= second channel)
Settings:	Rotary switch/pushbutton on the front panel
CE Mark:	In accordance with low-voltage directive (2006/95/CE), EMC directives (89/336/EEC)

3. Maintenance

Everest 214-S is maintenance-free if used for its intended purpose.

See diagram on page 6

4. Controls

- Rotating button ±:** The desired relay (1 through 4) or input (1 through 2) is selected in menu level 1. The desired values are selected in menu levels 2 through 6. In menu level 2 - 6 the selected Value can be changed (+ = right turn), (- = left turn)
- Pushing button:** Used to select submenus 1 through 6. Pushing the button in submenu 6 returns the display to menu 1.
Note: If none of the controls are activated for 15 seconds, the device is automatically returned to the measured value display (menu level 0).

5. Output relays 1 through 4

Yellow LED lights up = relay pulled in = contact is closed

6. Limit value

Setting range from 2 to 100% relative to the selected mA Min-Max range.
The limit value cannot be set less than or equal to the actual hysteresis value.
Default setting: A1 = 80%, A2 = 60% A3 = 40% A4* = 20%

7. Delay time

Adjustable from 0.1 to 9.9 seconds
Limit value override action waits for delay time to elapse, the relay is then switched.
Default setting: 0.1 seconds

8. Hysteresis

Setting range: 1 to 99 %
The hysteresis value cannot be set greater than or equal to the actual limit value.
The output relay is not switched back until the measured value is fallen short of by the selected percentage value.
Default setting: 1%

9. NC-NO selection

N= normally open = contact is open as long as the measured value is less than the selected threshold value
NC= normally closed = contact is closed as long as the measured value is less than the selected threshold value
Default setting: NO
Note: All relays are open in the event of power failure.

10. Assigning input E1 or E2 to the limit value relay

The measured value from input E1 or E2 can be assigned individually to each relay output (A1 through A4).
Default setting: E1

11. Over-ranging display

Measuring signal > mA max. value → digital display = ↑
Measuring signal < mA min. value → digital display = ↓

12. Pulse Timer

The pulse timer is switched on as soon as on and off-time is set to a value of greater than 0.

*Setting values for limit value relay 4 are rendered inactive as a result.

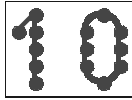
ON-Time: The contact at relay 4 remains closed as long as the selected on-time has not yet elapsed.

Setting range: 1 second to 24 hours

Available setting values:

0*, 1, 2, 5, 10, 30s

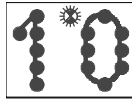
No decimal point is illuminated



Example 10 seconds

1, 2, 5, 10, 30min

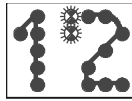
1 point is blinking



Example 10 minutes

1, 2, 3, 6, 12, 24h

2 points are blinking



Example 12 hours

Default setting: 0

OFF-Time: The contact at relay 4 remains open as long as the selected off-time has not yet elapsed.

Setting values same as above

Default setting: 0

Note: After power failure, the device is rebooted and the program starts with on-time.

If on or off-time is changed during operation, the new on or off-time becomes immediately effective.

13. Scaling Input 1 und 2

mA min. value:

Setting range: 0 to 24 mA

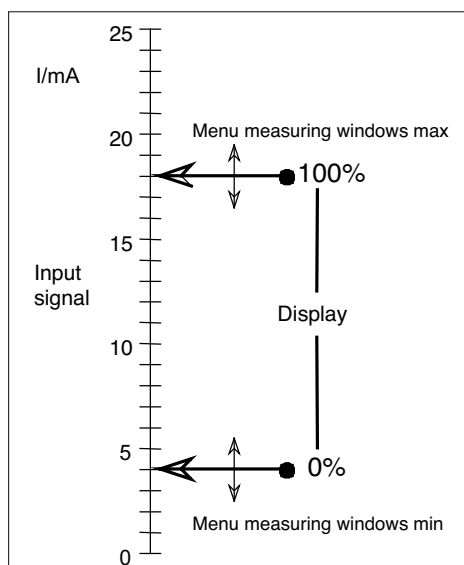
Default setting: = 4 mA

mA max. value:

Setting range: 1 to 25 mA

Default setting: = 20 mA

The percentage display can be assigned to a range of the mA measuring signal in the Scaling menu.



Example:

Measuring signal 5 mA = display of 0%
Measuring signal 18 mA = display of 100%

Settings required to this end:

Menu: Scaling E1 / mA min. = 5

Menu: Scaling E1 / mA max. = 18

14. Filter time

Filter for attenuating fluctuations on measured values and interferences.

Integration time adjustable from: 0.1 to 9.9 s

Default setting: 0.1 s

15. Hold function

For each one of both inputs a hold function can be activated.

This allows holding the measurement while actuating the relay A4.

Available setting values:

of: hold-function disabled

on: hold-function enabled

Default setting: of

The hold-function is not working if one of the timer settings set to 0.

16. Reset to default settings

Switch supply power on.

Within 3 seconds (i.e. during the test routine), press and hold the pushbutton for approximately 5 seconds.

The display counts up: **1, 2, 3, 4 ... 99, ST...**

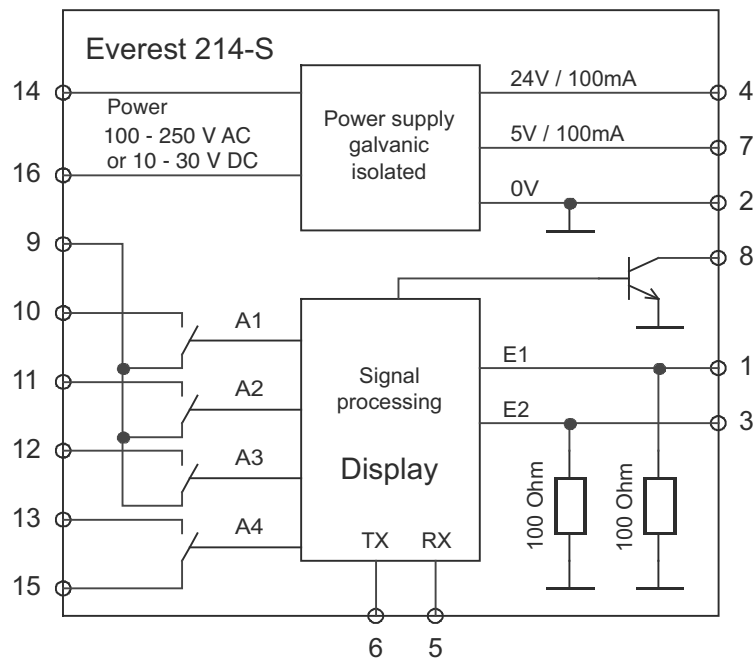
All settings are returned to their default values.

17. Switching on supply power

After supply power has been switched on, the device starts a test routine during which all LED and the digital display are activated (lamp test).

After approximately 1 second, the software version is briefly displayed.

The display is then switched to menu level 0 and the measured value display E1, E2.



17. MENU

LED off
 LED On
 LED blinking

Switch Turn
 Switch Push

Measuring Value E1 (%)

Selection Relay 1

Limit Value (%)

Delay Time (s)

Hysteresis (%)

NO/NC Selection

Assign E1 or E2

back to Level 1

0

Measuring Value E2 (%)

Selection Relay 2

Limit Value (%)

Delay Time (s)

Hysteresis (%)

NO/NC Selection

Assign E1 or E2

back to Level 1

1

Selection Relay 3

Limit Value (%)

Delay Time (s)

Hysteresis (%)

NO/NC Selection

Assign E1 or E2

back to Level 1

2

Selection Relay 4

Limit Value (%)

Delay Time (s)

Hysteresis (%)

NO/NC Selection

Assign E1 or E2

back to Level 1

3

Selection Pulse Timer

ON-Time

OFF-Time

back to Ebene 1

4

Selection Input 1

Measure window min (mA)

Measure window max (mA)

Filter Time (s)

Hold Function

back to Level 1

5

Selection Input 2

Measure window min (mA)

Measure window max (mA)

Filter Time (s)

Hold Function

back to Level 1

6

Relay 4
oder
Pulse Timer

Input 1

Input 2

Relay 1

Relay 2

Relay 3

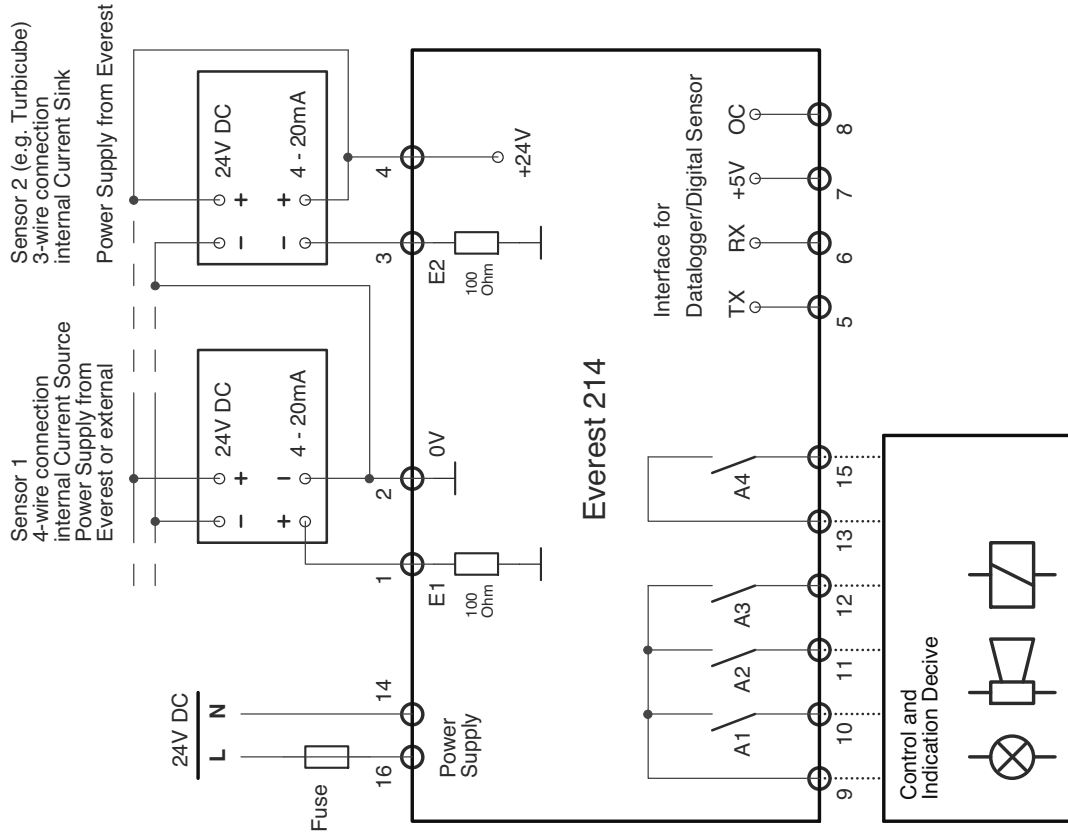
back to Level 1

back to Level 1

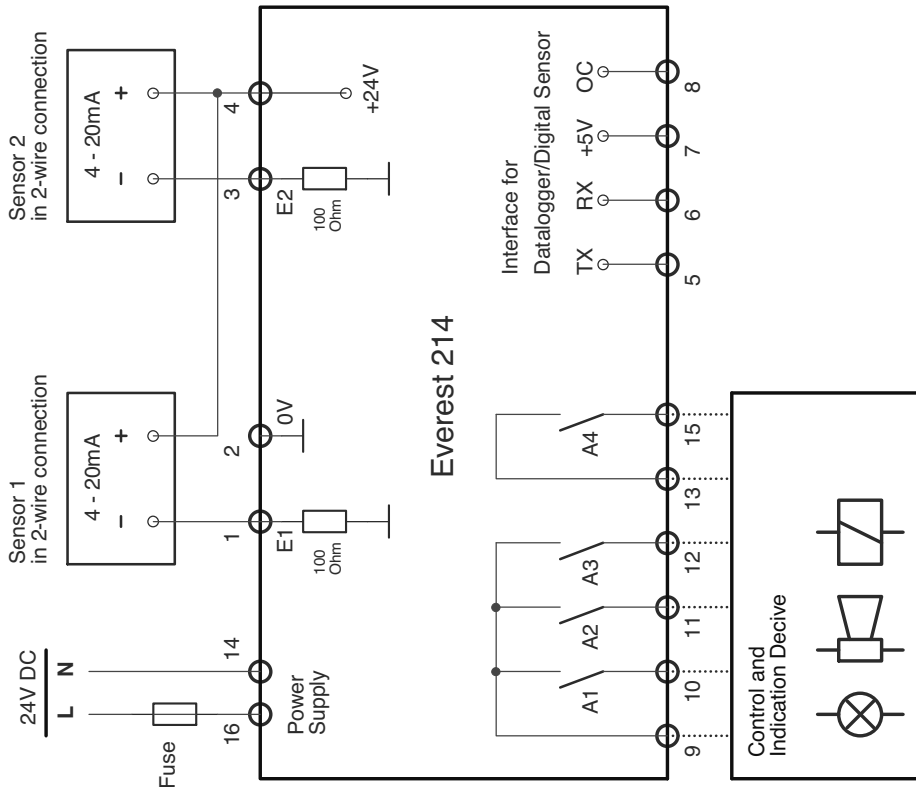
back to Level 1

back to Level 1

18. Electrical connections



Sample schematic for sensors with 3 ou 4-wire connection



Sample schematic for sensors with 2-wire connection