OWNERS MANUAL

MEASURING AMPLIFIER, 4 LIMIT VALUE RELAYS, PULSE TIMER

EVEREST 214

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!

Functions Description:

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

- µ-Processor controlled
- 24 V DC sensor supply power
- Integrated pulse timer, 1 second to 24 hours, e.g. for MEMPRO ventilation control
- 2 scalable measurement inputs (measured value window)
- 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 of up to 9.9 seconds
- Selectable Hold-Function for Areation-Controling
- Normally closed or normally open function can be selected for each limit value relay

Technical Data:

Power Supply:	100V - 255V AC / 50 - 60Hz, oder 10 - 30V DC
Power consumption:	1 - 5W
Ambient temperature:	10…+45°C
Limit value contacts:	3+1 floating contacts, 3 with common root, 1 floating contact can be selected as a clock generator output (can be switched back and forth between NC and NO function)
Output relay switching capacity:	250V AC; 3A / 30V DC; 1A ***Caution:*** *Contacts are not protected against overload – use external protective device!*
Housing:	22.5 x 100 x 122 mm, IP 40, for Top-hat rail: 35 x 7.5 mm (DIN EN 50 022) Caution: Contact protection per DIN EN 61010-1 is only assured when installed to a closed housing with at least IP 54 protection.
Terminals:	Schraubanschluss, max. 1,5mm²
Measuring circuit:	2 Inputs: 4 - 20mA (factory default) scalable 0 - 25mA
Measuring accuracy:	better than 1% ±0,5 Digit
Display resolution:	1%
Measured value filter:	Adjustable from 0.1 to 3 seconds
Reset hysteresis:	Adjustable from 0 - 99%
Sensor power supply:	24V DC max. 100mA and 5V DC max. 100mA
Indicators:	*Measure Value:* 2½-place LED 5x7-Dotmatrixdisplay *Switching status:* 4x LED yellow = limit value relays *Inputs:* 1x LED green = Input 1 and 1x LED blue = Input 2
Settings:	Rotary switch/pushbutton on the front panel

BAMO IER GmbH ● Pirnaer Straße 24● 68309 Mannheim
Tel. +49 (0)621 84224-0 ● Fax: +49 (0)621 84224-90 . e-Mail: info@IER.de ● Internet: www.IER.de

CE-Mark:

In accordance with low-voltage directive (73/23/ECC), EMC directive (89/336/ECC)

Maintenance:

The device is maintenance-free if used for its intended purpose.

Controls:

Button rotate: 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 ca changed += ritght turn -= left turn

Button push: 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).

Output relays 1 through 4:

Yellow LED lights up = relay pulled in = contact closed

Limit value:

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

Delay time:

Adjustable from 0.1 to 9.9 seconds
Limit value violation → wait for delay time to elapse → the relay is then switched.
Default setting: 0.1 seconds

Hysteresis:

Setting range: 1 to 99%. The hysteresis value can not 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%

NC-NO selection:

NO = 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 or device malfunction.

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

Overranging display:

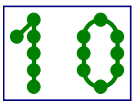
Measuring signal > mA max. value → digital display = ↑
Measuring signal < mA min. value → digital display = ↓

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.

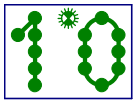
ON-Time
The contact at relay 4 remains closed as long as the selected on-time has not yet elapsed.
Setting range: 1 second to 24 hours

Available setting values:
0*, 1, 2, 5, 10, 30s
→ **No** decimal point is illuminated



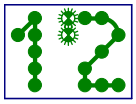
Example 10 seconds

1, 2, 5, 10, 30min
→ in the upper middle lane **1 point** is blinking



Example 10 minutes

1, 2, 3, 6, 12, 24h
→ in the upper middle lane 2 **points** are blinking



Example 12 hours

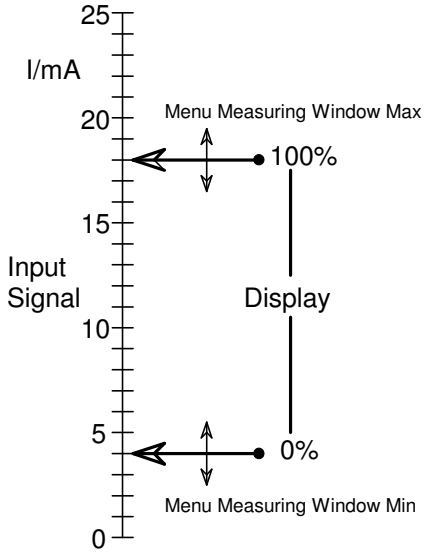
Default settuing: 0

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.

Scaling Eingang 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

Filter time:

Filter for attenuating measured value fluctuations and interference
Integration time: adjustable from 0.1 to 9.9 seconds
Default setting: 0.1 seconds

Hold function:

For every Inpute threre can be activate a hold-function. With this feature it is possible to hold the measure value during the contace of Relay 4 is closed.
Available setting values:
of: hold-function disabled
on: hold-function enabled

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

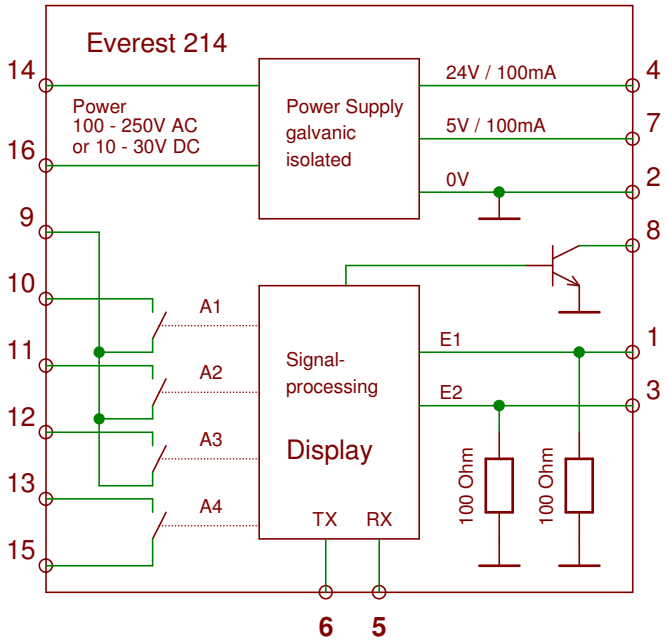
Reset to default settings:

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.

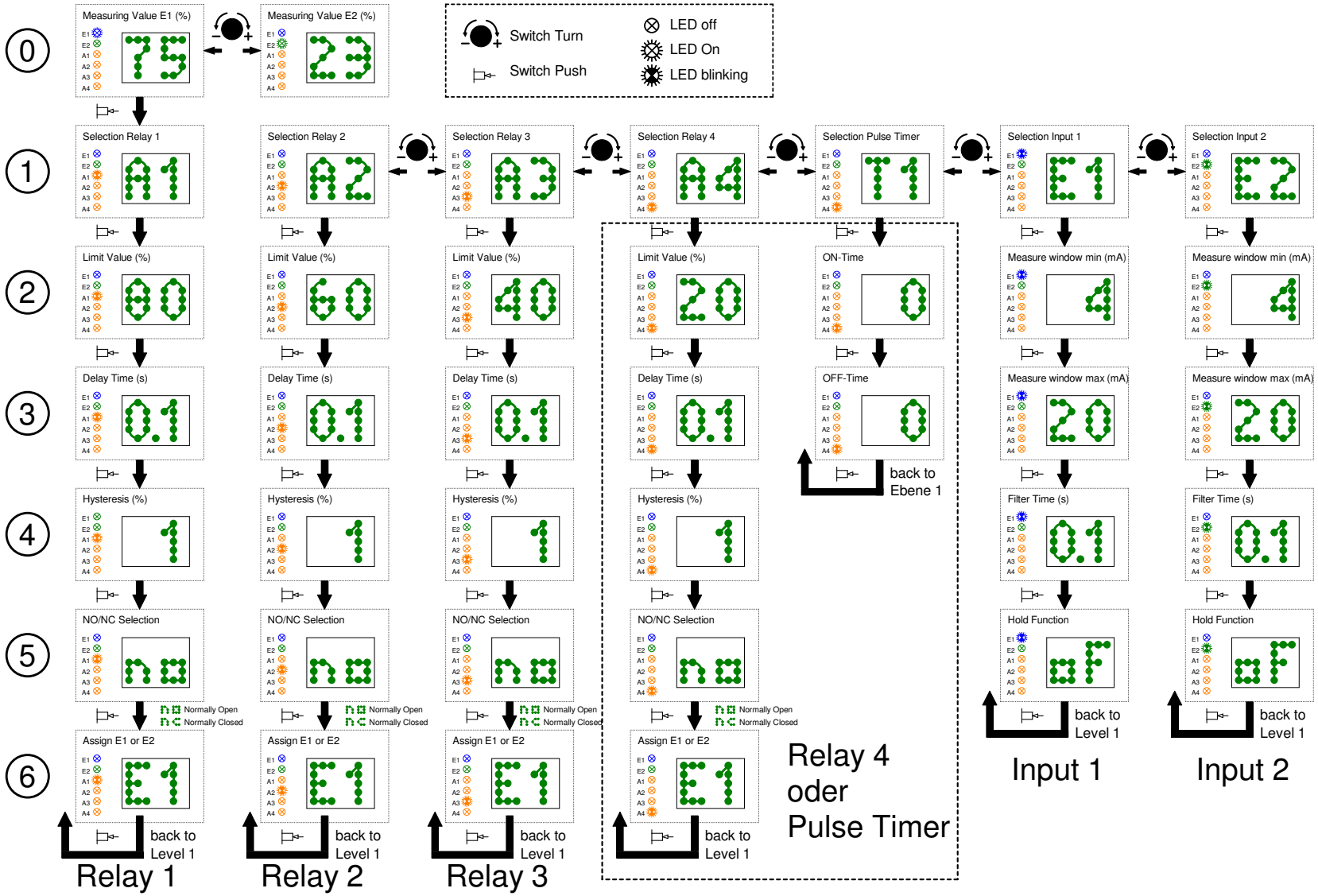
Switching on supply power:

After supply power has been switched on, the device starts a test routine during which all LEDs 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.

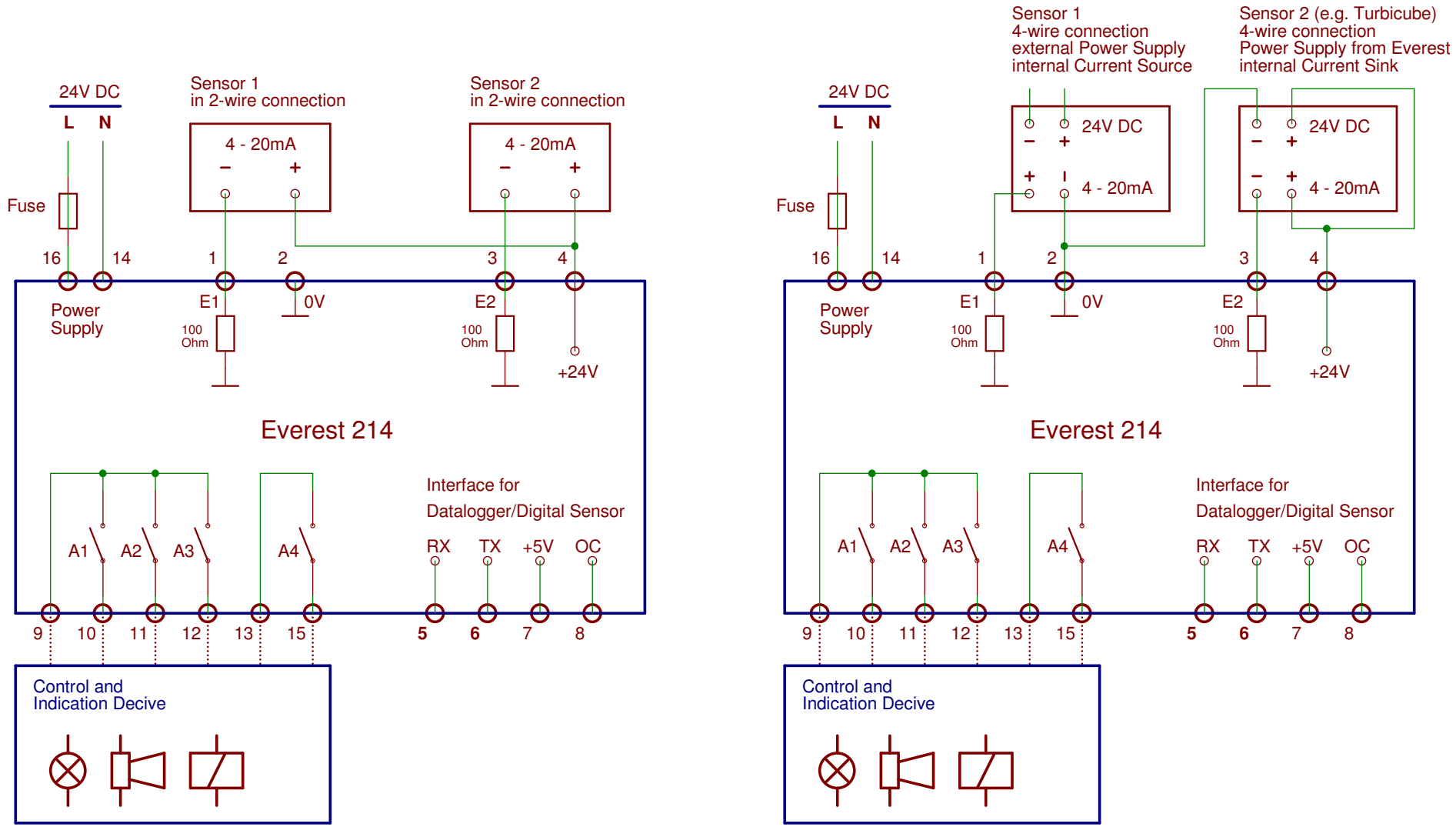
Blockdiagramm:



Menu:


0
1
2
3
4
5
6
Measuring Value E1 (%)
Measuring Value E2 (%)
Switch Turn
Switch Push
LED off
LED On
LED blinking
Selection Relay 1
Selection Relay 2
Selection Relay 3
Selection Relay 4
Selection Pulse Timer
Selection Input 1
Selection Input 2
Limit Value (%)
ON-Time
Measure window min (mA)
Measure window max (mA)
Delay Time (s)
OFF-Time
Hysteresis (%)
Filter Time (s)
NO/NC Selection
Normally Open
Normally Closed
Hold Function
Assign E1 or E2
back to Level 1
Relay 1
Relay 2
Relay 3
Relay 4 oder Pulse Timer
Input 1
Input 2

Elektrischer Anschluss:



Sample schematic for sensors with 2, 3 or 4-wire connection