## Limit Value Monitor DG 3101

## Economical Monitoring of Standard Signals with one Relay Output

The Limit Value Monitor DG 3101 is used to monitor measured values in $0(4) \ldots 20 \mathrm{~mA}$ and $0 \ldots 10 \mathrm{~V}$ standard signal circuits. A transmitter supply $+U s$ is provided for the operation of 2-wire transmitters.

The switching output can be configured with the analog control electronics as MIN or MAX alarm in open-circuit or closed-circuit operation.

All setting elements are located behind the openable front cover and can also be operated when the unit is mounted. The switching point and the switching hysteresis can be adjusted with potentiometers. The monitoring state is indicated by a yellow LED.

The relay changeover contact switches high power loads up to 6 A.

The Protective Separation and the 24 V DC power supply makes the DG 3101 universally applicable for all measurement and industrial applications, as well as for building automation.

- Easy configuration on front panel

Operating mode switchable via DIP switch, switch point and hysteresis adjustable with potentiometer

- Status indication by LED

Easy monitoring and switching point adjustment

- True 4-port separation

Protection against erroneous measurements due to parasitic voltages or ground loops

- Protective Separation acc. to EN 61010

Protects service personnel and downstream devices against impermissibly high voltage

- High reliability and noise immunity

No microprocessor, no integrated software

- Extremely slim design
12.5 mm slim housing for a simple and space saving DIN rail mounting
- 5 Years Warranty

Defects occurring within 5 years from delivery date shall be remedied free of charge at our plant


## Technical Data

| Input |  |
| :---: | :---: |
| Input ranges | $0(4) \ldots 20 \mathrm{~mA}$.. $0 \ldots 10 \mathrm{~V}$ |
| Input resistance | Current input approx. $5 \Omega \quad$ Voltage input approx. $120 \mathrm{k} \Omega$ |
| Overload max. | Current input 200 mA Voltage input 300 V |
| Transmitter supply + Us | 16 V at $U_{\text {power }}=24 \mathrm{~V}$, ( $13 \mathrm{~V} \ldots 22 \mathrm{~V}$ depending on the supply voltage $)$ current limited $\leq 30 \mathrm{~mA}$ |
| Switch point setting | 0 to $110 \%$ with 12-turn potentiometer |
| Hysteresis setting | 0 to $6 \%$ or 0 to $60 \%$ of measuring range switchable, adjustable with potentiometer |
| Output |  |
| Contact type | 1 changeover relay (SPDT) |
| Switching capability AC max. | $250 \mathrm{~V} / 6 \mathrm{~A} \quad 1500 \mathrm{VA}$ |
| Switching capability DC max. | $250 \mathrm{~V} / 0.2 \mathrm{~A} \quad 115 \mathrm{~V} / 0.3 \mathrm{~A} \quad 30 \mathrm{~V} / 6 \mathrm{~A}$ |
|  | Recommended minimum load $300 \mathrm{~mW} / 5 \mathrm{~V} / 5 \mathrm{~mA}$ |
| Status indication | yellow LED |
| Response time | approx. 20 ms |
| General Data |  |
| Switch error | < 0.2 \% full scale |
| Temperature coefficient ${ }^{1 /}$ | < $150 \mathrm{ppm} / \mathrm{K}$ |
| Test voltage | $4 \mathrm{kV} \mathrm{AC}$,50 Hz , 1 min . input against power supply against switching output |
| Working voltage (Basic Insulation) ${ }^{22}$ | $1000 \mathrm{~V} \mathrm{AC} / D C$ for overvoltage category II and $600 \mathrm{~V} \mathrm{AC/DC}$ for overvoltage category III according to DIN EN 61010 with pollution degree 2 between input, power supply and switching output. |
| Protection against electrical shock ${ }^{2)}$ | Protective separation according to DIN EN 61140 by reinforced insulation according to DIN EN 61010 up to $600 \mathrm{~V} \mathrm{AC/DC}$ at overvoltage category II and 300 V AC/DC at overvoltage category III at pollution degree 2 between input, power supply and switching output. |
| Power supply | 24 V DC, $\pm 15 \%$, approx. 0.8 W |
| Ambient temperature | Operation $-20^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ $\left(-4\right.$ to $\left.+140^{\circ} \mathrm{F}\right)$ <br> Transport and storage $-35^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ $\left(-31\right.$ to $\left.+185^{\circ} \mathrm{F}\right)$ |
| EMC ${ }^{3}$ | EN 61326-1 |
| MTBF (acc. to EN 61709 / SN 29500) | 575.4 years ( $\mathrm{T}_{\text {amb }} .40^{\circ} \mathrm{C}$, FIT 198) |
| 1) Average TC related to full scale value in specified operating temperature range, reference temperature $23^{\circ} \mathrm{C}$ <br> 2) For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks. <br> 3) Minor deviations possible during interference |  |

## Dimensions



Subject to change!

## Construction

$12.5 \mathrm{~mm}\left(0.5^{\prime \prime}\right)$ housing, protection class IP 20 mounting on 35 mm DIN rail acc. to EN 60715 Weight 70 g

## Connection

Captive plus-minus clamp screws
Wire cross-section max. $2.5 \mathrm{~mm}^{2}$ / AWG 14
Stripped length $6 \ldots 8 \mathrm{~mm} / 0.28$ in
Screw terminal torque $0.8 \mathrm{Nm} / 7 \mathrm{lbf}$ in

## Product line

| Device | Order No. |
| :--- | :--- |
| Limit Value Monitor with relay contact | DG 3101 |

