

### Technical data

#### **ESW®-small-Transmitter Ex-i M 10-30**

#### ESW®-small-Transmitter Ex-i\_M 10-30

|                            |                                                                                                                                                                                |           |                     |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------|
| operating voltage          | 24 DC, +/-10% (max. 10V to 30V DC)                                                                                                                                             |           |                     |
| current input              | 4 to 20 mA, max. 27 mA                                                                                                                                                         |           |                     |
| temperature range          | -40°C to +50°C                                                                                                                                                                 |           |                     |
| type of protection         | IP 66/68                                                                                                                                                                       |           |                     |
| case                       | high grade steel V4A (1.4571)                                                                                                                                                  |           |                     |
| case dimensions            | 102 x 54mm (h x Ø)                                                                                                                                                             |           |                     |
| weight                     | approx. 1kg(without cable), approx. 1,2kg (with cable)                                                                                                                         |           |                     |
| connection cable           | 3m, 2 x 0,75mm <sup>2</sup> , with shield<br>cover material: SABIX, temperature range: -40°C to +90°C,min.<br>bending radius: 57mm                                             |           |                     |
| screw-type conduit fitting | TEC/MS-WD-AD M16, M16x1,5                                                                                                                                                      |           |                     |
| sensor                     | integrated acceleration sensor                                                                                                                                                 |           |                     |
| measured value             | vibration velocity in mm/s                                                                                                                                                     |           |                     |
| measurement range          | 0 to 20mm/s                                                                                                                                                                    |           |                     |
| frequency range            | 10Hz to 1kHz (-3dB)                                                                                                                                                            |           |                     |
| filter                     | Butterworth, 40dB/dek                                                                                                                                                          |           |                     |
| signal assessment          | Peak, decay time 0,08s<br>arithm. average aligned to RMS                                                                                                                       |           |                     |
| analog output              | 4mA - 20mA (correspond to 0 – 20mm/s)                                                                                                                                          |           |                     |
| dynamic range              | 4 - 22mA linear (up to 25mA -1dB)                                                                                                                                              |           |                     |
| supply                     | Constant voltage supply<br>Modulation of the supply current within the range 4 - 20mA<br>Measurement of current consumption or extraction as voltage<br>across load resistance |           |                     |
| max. load resistance       | dependant on supply voltage                                                                                                                                                    |           |                     |
| Dimensioning               | $U_{int-min} = 10V, I_{out-max} = 27mA$<br>supply = $U_{int-min} + (R_{load} \times I_{out-max})$                                                                              |           |                     |
| example                    | Default:: $R_{load} = 500\Omega >> \text{output: } 0,5V/mA$<br>$U_{load-max} = 27mA \times 500\Omega = 13,5V$<br>$U_B-min = U_{load-max} + U_{int-min} = 13,5V + 10V = 23,5V$  |           |                     |
| cable connection           | white                                                                                                                                                                          | 4 to 20mA | + current loop      |
|                            | brown                                                                                                                                                                          | 4 to 20mA | reference potential |
|                            | ground on earth terminal, BARTEC, 4,0mm <sup>2</sup><br>threaded pin, M10x25mm, V4A                                                                                            |           |                     |

|                    |                                                                                         |           |
|--------------------|-----------------------------------------------------------------------------------------|-----------|
| Electrical data    | Supply and signal circuit permanently connected cable,<br>wires white (+) and brown (-) |           |
| Max. input voltage | Ui                                                                                      | 28,8V, DC |
| Max. input current | Ii                                                                                      | 125 mA    |
| Max. input power   | Pi                                                                                      | 1 W       |

The effective capacitance Ci and effective inductance Li of the apparatus are composed of the (concentrated) capacitance and inductance of the apparatus and the parameters of the connected cable:

|                                    |      |       |
|------------------------------------|------|-------|
| Effective concentrated capacitance | 10   | nF    |
| Effective concentrated inductance  | 30   | µH    |
| Cable capacitance                  | 211  | nF/km |
| Cable inductance                   | 0,65 | mH/km |

Ambient temperature range T<sub>a</sub> -40 °C...50 °C

### Marking

The marking shall be visible, legible and durable. It shall contain the following:

|                                         |                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Name and address of<br>the manufacturer | Holthausen Elektronik GmbH<br>Wevelinghoven 38<br>41334 Nettetal                                          |
| designation                             | ESW small Transmitter Ex-i M 10-**                                                                        |
| Year of production                      | 2015                                                                                                      |
| Certificate number                      |  II 2G Ex ia IIC T4 Gb |
| Serial number                           | zB. 3615-0123 ( KW/Jahr- lfd.Nr.)                                                                         |
|                                         | --40 °C ≤ T <sub>a</sub> ≤ 50 °C                                                                          |