The MC33-22Ex0-U is designed to energise intrinsically safe 2-wire loop-type transmitters located in the hazardous area and to transmit standard analogue signals from a hazardous area to a safe area.

The dual channel control unit provides input circuits from 4…20 mA and output circuits from 2…10 V. A green LED provides power "ON" indication.

The inputs and outputs of both channels are isolated from each other and from the supply voltage. Input signals are transferred without attenuation (1:1) to the output.

Due to this 1:1 transfer, wire-break and short-circuit faults are displayed as voltage signals of 0 V or > 12 V respectively.

- Intrinsically safe input circuits [EEx ia] IIC
- Power supply for 2-wire transmitters
- Galvanic isolation between input circuit, output circuit and power supply
- Current limiting within the transmitter loop
- Input circuits 4…20 mA
- Output circuits 2…10 V
- Linearity ≤ 0.1 %
- Temperature sensitivity ≤ 0.005 %/K of final value

The 2-Wire Loop Isolator MC33-22Ex0-U/24VDC 2-channels is provided with the following features:

- Power
- + z16 0...10 V – d16
- + z10 0...10 V – d10
- + zd4 24 VDC – zd2
- 4...20 mA
- 100 Ω
- d22
- d30
- z30 + 4...20mA
- z22 + 4...20mA
Analogue Data Transmitters

**Type**
- MC33-22Ex0-U/24 VDC

**Ident-No.**
- 94 431 03

**Supply Voltage** $U_B$
- 18...35 VDC

**Ripple $W_{pp}$**
- $\leq 10\%$

**Overvoltage release**
- $39 V \pm 1 V$

**Power/Current consumption**
- $> 6 W$

**Galvanic isolation**
- between input circuit, output circuit and supply voltage for $250 V_{rms}$, test voltage $2.5 kV_{rms}$

**Transducer Circuit**
- intrinsically safe per DIN EN 50020

**Input resistance**
- 100 $\Omega$

**Operating characteristics**
- Supply voltage see characteristic curve
- Current 4...20 mA
- Current limitation typ. 35 mA

**Output Circuits**
- Voltage output 2...10 V
- Load resistance $\geq 1k\Omega$

**Ex-Approval acc. to Certification of Conformity**
- TÜV 98 ATEX 1258X

**Input circuit**
- Maximum nominal values
  - No-load voltage $U_0$ 21 V
  - Short-circuit current $I_0$ 80 mA
  - Internal resistance $R_i$ 451 $\Omega$ (trapezoidal characteristic curve)
  - Output power $P_0$ 0.7 W

**Maximum external inductances/capacitances**
- $[EEx\ ia/ib]\ II B$ 5 mH/350 nF
- $[EEx\ ia/ib]\ II C$ 0.75 mH/75 nF

**Transfer Characteristics**
- Linearity tolerance $\leq 0.1\%$ of final value (typically 0.03 %)
- Effect of load impedance negligible
- Effect of supply voltage impedance negligible
- Ambient temperature sensitivity $\leq 0.005\% /K$ of final value
- Pulse rise time (10 %...90 %) $< 60$ ms
- Pulse release time (90 %...10 %) $< 60$ ms

**LED Indications**
- Power “ON” green

**Eurocard**
- 100 x 160 mm (DIN 41494)

**Material**
- glass-fiber reinforced epoxy resin, quality class FR4

**Front panel**
- plastic, 4TE = 20.32 mm individually interlocking

**Connection**
- connector per DIN 41612,
  - type F, 32-pole (series z+d)

**Operating temperature**
- -25...+60 °C

**Coding No.**
- 119