



EP3356-0022 | 1-channel precise load cell analysis (resistor bridge), 24 bit



The EP3356 EtherCAT Box enables direct connection of a resistor bridge or load cell in a 4-wire connection technology. The ratio between the bridge voltage U_D and the supply voltage U_{REF} is determined simultaneously in the input circuit and the final load value is calculated as a process value on the basis of the settings in the EP3356. With automatic self-calibration (can be deactivated), dynamic filters and distributed clock support, the EP3356 with measuring cycles of 100 μ s can be used for fast and precise monitoring of torque or vibration sensors.

All four M12 sockets are connected, so that parallel operation of several strain gauges is possible.

| Technical data | EP3356-0022 |
|---|--|
| Number of inputs | 2, for 1 resistor bridge in full bridge technology |
| Input connections | M12, screw type |
| Protocol | EtherCAT, TwinCAT SC |
| Bus interface | 2 x M8 socket, shielded, screw type |
| Signal type | resistor bridge, strain gauge |
| Internal resistance | > 200 k Ω (U_{REF}), > 1 M Ω (U_D) |
| Resolution | 24 bit, 32 bit presentation |
| Measuring error | < ± 0.01 % for the calculated load value in relation to the final load value with a 12 V feed and 24 mV bridge voltage (hence nominal strain gauge characteristic value of 2 mV/V), self-calibration active, 50 Hz filter active |
| Input filter limit frequency | 10 kHz low pass (-3 dB) |
| Conversion time | 0.1...250 ms, configurable, max. 10,000 samples/s |
| Conversion rate | 10,000...4 samples/s (0.1...250 ms conversion time) |
| Nominal voltage | 24 V (-15 %/+20 %) |
| Distributed clocks | yes |
| Sensor supply | 10 V (supplied by the EP3356 from U _p) |
| Current consumption from U _s | 120 mA |
| Power supply connection | feed: 1 x M8 male socket, 4-pin; downstream connection: 1 x M8 female socket, 4-pin |
| Supported nominal sensitivity | all, parameter resolution: 0.01 μ V/V; recommended: 0.5...4 mV/V |
| Special features | self-calibration, quadruple averager, dynamic filters, fast data sampling, parallel connection |
| Operating/storage temperature | -25...+60 °C/-40...+85 °C |
| Vibration/shock resistance | conforms to EN 60068-2-6/EN 60068-2-27 |
| EMC immunity/emission | conforms to EN 61000-6-2/EN 61000-6-4 |
| Protect. class/installation pos. | IP 65/66/67 (conforms to EN 60529)/variable |
| Approvals/markings | CE, UL |

| Accessories | |
|-----------------------|--|
| ZK1090-3xxx-xxxx | Cables for EtherCAT signal in- and -output |
| ZK2000-6xxx-xxxx | Cables for M12 I/O connection sockets |
| ZK2000-5xxx/71xx-xxxx | Sensor cable 5-wire unshielded/shielded |
| ZK2020-3xxx-xxxx | Cables for M8 power supply |

| Further information | |
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| XFC | eXtreme Fast Control Technology |