3-axial MEMS accelerometer with EtherCAT interface and DEWESoft software support.

MonoDAQ-E-gMeter

A data acquisition device with embedded triaxial MEMS accelerometer, analog-to-digital conversion and EtherCAT interface based on the MonoDAQ EtherCAT platform (www.monodaq.com).

Key features:

- 25 ug√Hz noise density
- EtherCAT bus, daisy-chaining with single cable up to 50 m device-device
- DEWESoft X3 software support

Typical applications:

- Bridge structural monitoring
- Seismic measurements
- Mobile network antenna structural monitoring

Specifications of the MEMS accelerometer:

	Min.	Typ.	Max.	Unit
Measurement ranges	+-2		+-8	g
-3 dB bandwidth		1000		Hz
Noise density (+-2 g)		25		ug√Hz
Offser error	-75	+-25	+75	mg
Offset temp. drift (-40...125 degC)	-0.15	+-0.02	0.15	mg/C
Sensitivity temp. drift (-40...125 degC)		+-0.01		%/degC
Linearity error -1g ... +1g range		0.1		% FS
Crossaxis sensitivity	-1		+1	%

Specifications of the MonoDAQ-E-gMeter device:

Digital interface	EtherCAT
Interface connectors	RJ45
Power consumption	1300 mW
Supply voltage	12-48 V
Operating temperature	-20 ... 60 degC
IP rating	IP20

Software support: DEWESoft X3, any standard EtherCAT master

Installation: Devices are daisy chained with a standard network cable. It is recommended that the cable is shielded (SFTP, CAT5e) and has a minimum 24 AWG wire thickness. The cable must have 4 wire pairs. The maximum distance node-to-node is 50 m.

Power supply: Passive PoE power injector is neccessary for merging the EtherCAT signal and power into a single cable.

Power supply voltage	Cable length device-to-device	Cable size	Max. number of devices from a single power supply
24 V	1 m	AWG 24	8
24 V	50 m	AWG 24	4
48 V	1 m	AWG 24	12
48 V	50 m	AWG 24	10

Mechanical drawing