Low latency analog output with EtherCAT interface and DEWESoft software support

MonoDAQ-E-AO

Low-latency, high precision analog ouptut with excellent dynamic performance. Under 100 microseconds of EtherCAT-to-analog delay possible (on a real-time EtherCAT controller). (www.monodaq.com).

Key features:

- 18 bit DAC, 92 dB SNR
- <100 us delay (EtherCAT-to-analog output)
- EtherCAT bus, daisy-chaining with single cable up to 50 m device-device
- DEWESoft X3 software support



Typical applications:

- Analog voltage controlled valves
- EtherCAT control systems

Analog output specification:

	Typ.	Unit
DAC resolution	18	bit
Sample rate in DEWESoft software	1	kS/s
Update time in DEWESoft software	20-30	ms
Full scale output range	+-10	V
Analog output bandwidth	50	kHz
Accuracy	0.1 % +- 1mV (0 to 20 mA load)	
Measurement ranges	+-10, +-5, +-1, +-0.2	V
Temperature gain drift	+-10	ppm/K
Temperature offset drift	+- 5	uV/K
SNR (1000 S/s otuput rate, sine wave, 250 Hz, +-9 V)	92	dB
THD	-90	dB
Output impedance	0.45	Ohm DC
Maximum output current	20	mA
Settling time (0.05 % of set value, -10 V to 10 V step)	30	us
Max. slew rate (@1000 ohm load)	2.5	V/us
Max. capacitive load (2% overshoot)	10	nF
Maximum load	500	ohm
Output connector	BNC	

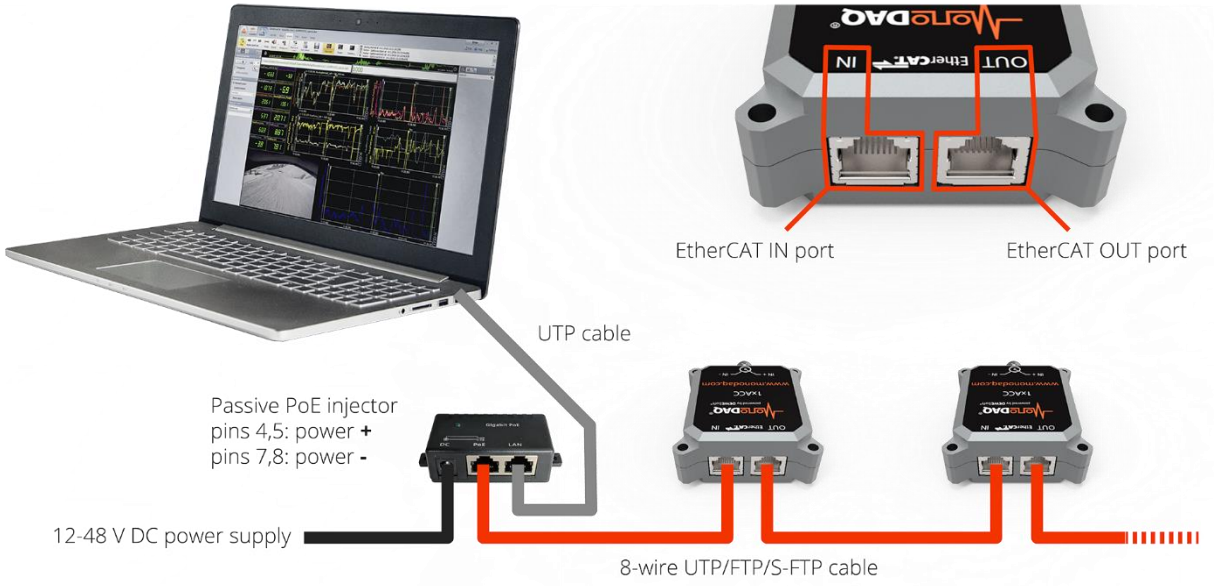
General specification:

Digital interface	EtherCAT
Data interface connectors	RJ45 (single cable for data, power and sync)
Power consumption	2 W
Supply voltage	12-48 V
Operating temperature	-20 ... 60 degC
IP rating	IP20
Weight	130 g
Dimensions	82 x 62 x 28 mm

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	6
24 V	50 m	AWG 24	3
48 V	1 m	AWG 24	12
48 V	50 m	AWG 24	7

Note: this table applies if device consumes its typical power supply as specified in general specification. The max. nr. of devices from a single power supply can change if devices uses more/less power (depending primarily on sensor exciation and front end power supply load).

Front end connector pinout



Mechanical drawing

