



## i EP4378-1022 | 4+4-channel analog input/output, U/I parameterisable, + 8-channel digital input/output, 24 V DC/3.0 ms

The EP4378-1022 EtherCAT Box provides a combination of four analog inputs and four analog outputs as well as eight digital inputs/outputs. The analog channels can be individually parameterised so that they process/generate signals either in the  $\pm 10$  V or the 0/4 to 20 mA range. The resolution of the input signals is 16 bit depending on the sign. The voltage or output current is supplied to the process level with a resolution of 15 bit (default), electrically isolated. The digital channels can be used for reading binary sensors or controlling actuators according to the EN 61131-2, type 1/3 specifications. The inputs have a filter constant of 3 ms. The outputs process load currents up to 0.5 A and are both short-circuit proof and reverse-polarity protected. All output channels have a common ground potential. At the upper four M12 connections each, the following is available: an analog input, an analog output and a digital input/output, which is freely assignable without prior configuration, so that complex end devices such as frequency converters, hydraulic power units, motor drives or similar can be supplied using just one connection cable. At the lower four M12 connections a digital input/output is available each, freely assignable without configuration.

Technical data	EP4378-1022
Number of channels	4 analog inputs + 4 analog outputs + 8 digital inputs or outputs
Input/output connections	M12, screw type
Protocol	EtherCAT
Bus interface	2 x M8 socket, shielded, screw type
Signal type	-10/0...+10 V   0/4...20 mA
Nominal voltage	24 V DC (-15 %/+20 %)
Load	output: > 5 k $\Omega$   < 500 $\Omega$
Internal resistance	input: > 200 k $\Omega$   typ. 85 $\Omega$ + diode voltage
Resolution	16 bit
Conversion time	input: ~ 100 $\mu$ s, output: ~ 40 $\mu$ s
Measuring error	input: < 0.3 %, output: < 0.1 % (each relative to full scale value)
Actuator supply	from the auxiliary voltage Up
Power supply connection	feed: 1 x M8 male socket, 4-pin; downstream connection: 1 x M8 female socket, 4-pin
Electrical isolation	500 V
Current consumption from Us	120 mA
Special features	combi module, current or voltage parameterisable per channel
Weight	approx. 165 g
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

Accessories	
ZK1090-3xxx-xxxx	Cables for EtherCAT signal in- and -output
ZK2000-5xxx/71xx-xxxx	Sensor cable 5-wire unshielded/shielded
ZK2020-3xxx-xxxx	Cables for M8 power supply

