



ER1258-000x | 8-channel digital input with 2-channel time stamp

The ER1258 EtherCAT Box with digital inputs acquires the fast binary control signals from the process level and transmits them, in an electrically isolated form, to the controller. The signals are furnished with a time stamp that identifies the time of the last edge change with a resolution of 1 ns. This technology enables signals to be traced exactly over time and synchronised with the distributed clocks across the system. With this technology, machine-wide parallel hardware wiring of digital inputs or encoder signals for synchronisation purposes is often no longer required. In this way, the ER1258 enables responses with equidistant time intervals, largely independent of the bus cycle time.

The EtherCAT Box modules with zinc die-cast housing are ready for use in harsh industrial and process environments. With the fully sealed design and metal surfaces the ER series is ideal for applications requiring enhanced load capacity and protection against weld spatter, for example.

Technical data	ER1258-0001	ER1258-0002
Specification	EN 61131-2, type 1/3	
Number of inputs	8 (2 with timestamp)	
Input connections	M8, screw type	M12, screw type
Protocol	EtherCAT	
Bus interface	2 x M8 socket, shielded, screw type	
Nominal input voltage	24 V DC (-15 %/+20 %)	
Input filter	10 µs	
"0" signal voltage	-3...+5 V (similar to EN 61131-2, type 3)	
"1" signal voltage	11...30 V (similar to EN 61131-2, type 3)	
Input current	typ. 3 mA (similar to EN 61131-2, type 3)	
Distributed clocks	yes	
Sensor supply	from control voltage, max. 0.5 A total, short-circuit-proof	
Power supply connection	feed: 1 x M8 male socket, 4-pin; downstream connection: 1 x M8 female socket, 4-pin	
Resolution timestamp	1 ns (channel 0/1)	
Precision of timestamp	10 ns (+ input delay) (channel 0/1)	
Distributed clock precision	< 100 ns (channel 0/1)	
Bit width in the process image	8 inputs + 36 byte timestamp	
Current consumption from Us (without sensor current)	120 mA	
Electrical isolation	500 V	
Special features	timestamp, latch last edge	
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	CE, UL in preparation	

Accessories	
ZK1090-3xxx-xxxx	Cables for EtherCAT signal in- and -output
ZK2020-3xxx-xxxx	Cables for M8 power supply

Further information	
XFC	eXtreme Fast Control Technology