



## ET EtherCAT Terminals for the extended temperature range -25...+60 °C

The EtherCAT Terminal system has proven successful over a period of many years in automation applications where a temperature range of 0...55 °C is sufficient. For requirements beyond that, the operating temperature range of selected EtherCAT Terminals and Couplers has been extended to -25...+60 °C. The storage temperature of these ET components (Extended Temperature Range) has also been adapted and is now -40...+85 °C. The exact definition of the operating conditions in temperature ranges outside 0...55 °C, any installation requirements that possibly deviate from the standard and, if applicable, deviating technical data can be found in the EtherCAT Terminal documentation.

The following EtherCAT Terminals represent a selection of the products that are suitable for the extended temperature range. The extension of the temperature range is marked accordingly on the data sheet and is also available for any variants with a pluggable wiring level (ESxxx/ESXxxx).

### ET Bus Terminals

Ordering information	
<b>EtherCAT Coupler</b>	
EK1100	EtherCAT Coupler for E-bus terminals (ELxxxx)
EK1100-0008	EtherCAT Coupler for E-bus terminals (ELxxxx), with M8 screw-type connectors
EK1101	EtherCAT Coupler with ID switch for E-bus terminals (ELxxxx)
EK1101-0008	EtherCAT Coupler with ID switch for E-bus terminals (ELxxxx) and M8 screw-type connectors
EK1101-0080	EtherCAT Coupler with ID switch for E-bus terminals (ELxxxx), Fast Hot Connect
EK1110	EtherCAT extension
EK1110-0008	EtherCAT extension, with M8 socket
EK1122	2-port EtherCAT junction
EK1122-0008	2-port EtherCAT junction, with M8 screw-type connectors
EK1122-0080	2-port EtherCAT junction, Fast Hot Connect
EK1501	EtherCAT Coupler with ID switch, multimode fibre optic for E-bus terminals (ELxxxx)
EK1501-0010	EtherCAT Coupler with ID switch, singlemode fibre optic for E-bus terminals (ELxxxx), distance between stations up to 20 km
EK1521	1-port EtherCAT multi-mode fibre optic junction
EK1521-0010	1-port EtherCAT singlemode fibre optic junction, distance between stations up to 20 km
EK1541	EtherCAT Coupler with ID switch, POF for E-bus terminals (ELxxxx)
EK1561	1-port EtherCAT POF junction
EK1814	EtherCAT Coupler with 4 integrated digital inputs and 4 integrated digital outputs
EK1818	EtherCAT Coupler with 8 integrated digital inputs and 4 integrated digital outputs
EK1828	EtherCAT Coupler with 4 integrated digital inputs and 8 integrated digital outputs
EK1828-0010	EtherCAT Coupler with 8 integrated digital outputs
BK1120   EtherCAT	EtherCAT "Economy plus" Bus Coupler for up to 64 Bus Terminals (255 with K-bus extension)
BK1150	EtherCAT "Compact" Bus Coupler for up to 64 Bus Terminals (255 with K-bus extension)
BK1250   EtherCAT	EtherCAT "Compact" Coupler between EtherCAT Terminals (E-bus) and Bus Terminals (K-bus), adapter terminal
<b>Digital input</b>	

EL1002	2-channel digital input terminal 24 V DC, filter 3.0 ms, 4-wire system
EL1004	4-channel digital input terminal 24 V DC, filter 3.0 ms, 2-wire system
EL1008	8-channel digital input terminal 24 V DC, filter 3.0 ms, 1-wire system
EL1012	2-channel digital input terminal 24 V DC, filter 10 $\mu$ s, 3-wire system
EL1014	4-channel digital input terminal 24 V DC, filter 10 $\mu$ s, 2-wire system
EL1018	8-channel digital input terminal 24 V DC, filter 10 $\mu$ s, 1-wire system
EL1052	2-channel digital input terminal NAMUR, DC switching amplifier for NAMUR sensors according to EN 60947-5-6
ELX1052	2-channel digital input terminal NAMUR, Ex i
EL1104	4-channel digital input 24 V DC, filter 3.0 ms
EL1252	2-channel digital input terminal 24 V DC, filter 1 $\mu$ s, with timestamp
EL1382	2-channel digital input terminal thermistor
EL1502	Up/down counter 24 V DC, 100 kHz, 32 bit counter depth
EL1512	Up/down counter 24 V DC, 1 kHz, 32 bit counter depth
EL1804	4-channel digital input 24 V DC, 8 x 24 V DC, 4 x 0 V DC, 3.0 ms filter, 3-wire connection
EL1808	8-channel digital input terminal 24 V DC, filter 3.0 ms, 2-wire system
EL1809	16-channel digital input terminal 24 V DC, filter 3.0 ms, type 3
EL1814	4-channel digital input 24 V DC, 8 x 24 V DC, 4 x 0 V DC, filter typ. 10 $\mu$ s, 3-wire connection
EL1819	16-channel digital input terminal 24 V DC, filter 10 $\mu$ s, type 3
EL1889	EtherCAT Terminal, 16-channel digital input 24 V DC, filter 3.0 ms, 0 V (ground) switching

#### Digital output

EL2002	2-channel digital output terminal 24 V DC, 0.5 A, 4-wire system
ELX2002	2-channel digital output terminal 24 V DC, 45 mA, Ex i
EL2004	4-channel digital output terminal 24 V DC, 0.5 A, 2-wire system
EL2008	8-channel digital output terminal 24 V DC, 0.5 A, 1-wire system
EL2022	2-channel digital output terminal 24 V DC, 2.0 A, 4-wire system
EL2024	4-channel digital output terminal 24 V DC, 2 A, 2-wire system
EL2032	2-channel digital output terminal 24 V DC, 2 A, with diagnostics, 4-wire system
EL2034	4-channel digital output terminal 24 V DC, 2 A, with diagnostics, 2-wire system
EL2522	Incremental encoder simulation terminal (pulse train)
EL2784	4-channel digital output terminals 30 V AC/DC, 2 A, solid state
EL2788	8-channel digital output terminal, 2-wire, 30 V AC/DC, 2 A
EL2794	4-channel digital output terminals 30 V AC/DC, 2 A, solid state
EL2808	8-channel digital output 24 V DC, 8 x 0 V DC, 0.5 A
EL2809	16-channel digital output terminal 24 V DC, 0.5 A, 1-wire system
EL2828	HD EtherCAT Terminal, 8-channel digital output 24 V DC, 2 A
EL2889	16-channel digital output 24 V DC, 0.5 A, 0 V (ground) switching

#### Analog input

EL3001	1-channel analog input terminal -10 V...+10 V, single-ended, 12 bit
EL3002	2-channel analog input terminal -10 V...+10 V, single-ended, 12 bit
EL3004	4-channel analog input terminal -10 V...+10 V, single-ended, 12 bit, 4 x 2-wire system
EL3008	8-channel analog input terminal -10 V...+10 V, single-ended, 12 bit, 1-wire system
EL3011	1-channel analog input terminal 0...20 mA, differential input, 12 bit
EL3012	2-channel analog input terminal 0...20 mA, differential input, 12 bit
EL3014	4-channel analog input terminal 0...20 mA, differential input, 12 bit
EL3021	1-channel analog input terminal 4...20 mA, differential input, 12 bit
EL3022	2-channel analog input terminal 4...20 mA, differential input, 12 bit

EL3024	4-channel analog input terminal 4...20 mA, differential input, 12 bit
EL3041	1-channel analog supply terminal 0...20 mA, single-ended, 12 bit
EL3042	2-channel analog supply terminal 0...20 mA, single-ended, 12 bit
EL3044	4-channel analog input terminal 0...20 mA, single-ended, 12 bit, 4 x 2-wire system
EL3048	8-channel analog input terminal 0...20 mA, single-ended, 12 bit, 1-wire system
EL3051	1-channel analog supply terminal 4...20 mA, single-ended, 12 bit
EL3052	2-channel analog supply terminal 4...20 mA, single-ended, 12 bit
EL3054	4-channel analog input terminal 4...20 mA, single-ended, 12 bit, 4 x 2-wire system
EL3058	8-channel analog input terminal 4...20 mA, single-ended, 12 bit, 1-wire system
EL3061	1-channel analog input terminal 0...10 V, single-ended, 12 bit
EL3062	2-channel analog input terminal 0...10 V, single-ended, 12 bit
EL3064	4-channel analog input terminal 0...10 V, single-ended, 12 bit, 4 x 2-wire system
EL3068	8-channel analog input terminal 0...10 V, single-ended, 12 bit, 1-wire system
EL3101	1-channel analog input -10...+10 V, differential input, 16 bit
EL3102	2-channel analog input -10...+10 V, differential input, 16 bit
EL3104	4-channel analog input -10...+10 V, differential input, 16 bit
EL3111	1-channel analog input 0...20 mA, differential input, 16 bit
EL3112	2-channel analog input 0...20 mA, differential input, 16 bit
EL3112-0011	2-channel analog input -20...+20 mA, differential input, 16 bit
EL3114	4-channel analog input 0...20 mA, differential input, 16 bit
EL3121	1-channel analog input 4...20 mA, differential input, 16 bit
EL3122	2-channel analog input 4...20 mA, differential input, 16 bit
EL3124	4-channel analog input 4...20 mA, differential input, 16 bit
EL3124-0090	4-channel analog input 4...20 mA, differential input, 16 bit, TwinSAFE SC
EL3141	1-channel analog supply terminal 0...20 mA, single-ended, 16 bit
EL3142	2-channel analog supply terminal 0...20 mA, single-ended, 16 bit
EL3144	4-channel analog input terminal 0...20 mA, single-ended, 16 bit, 4 x 2-wire system
EL3151	1-channel analog supply terminal 4...20 mA, single-ended, 16 bit
EL3152	2-channel analog supply terminal 4...20 mA, single-ended, 16 bit
ELX3152	2-channel analog input terminal 0/4...20 mA, single-ended, 16 bit, Ex i
EL3154	4-channel analog input terminal 4...20 mA, single-ended, 16 bit, 4 x 2-wire system
EL3174	4-channel analog input, parameterisable, -10/0...+10 V, -20/0/+4...+20 mA, 16 bit
EL3174-0002	4-channel analog input, parameterisable, -10/0...+10 V, -20/0/+4...+20 mA, electrically isolated, differential, 16 bit
EL3174-0032	4-channel analog input, parameterisable, -3...+3 V, -20/0/+4...+20 mA, electrically isolated, differential, 16 bit
EL3174-0090	4-channel analog input, parameterisable, -10/0...+10 V, -20/0/+4...+20 mA, 16 bit, TwinSAFE SC
ELX3181	1-channel analog input terminal 4...20 mA, single-ended, 16 bit, HART, Ex i
EL3182	2-channel analog input terminal 4...20 mA, single-ended, 16 bit, HART
EL3201	1-channel input terminal PT100 (RTD) for resistance sensors, 16 bit, 4-wire system
EL3201-0010	1-channel analog input terminal, PT100 (RTD), 16 bit, high-precision
EL3202	2-channel input terminal PT100 (RTD) for resistance sensors, 16 bit, 2-, 3-wire system
ELX3202	2-channel input terminal RTD for 2-, 3- and 4-wire connection, 16 bit, Ex i
EL3202-0010	2-channel analog input terminal, PT100 (RTD), 16 bit, high-precision
EL3202-0020	2-channel analog input terminal, PT100 (RTD), 16 bit, high-precision, with calibration certificate

EL3204	4-channel input terminal PT100 (RTD) for resistance sensors, 16 bit, 2-wire system
ELX3204	4-channel input terminal RTD, 2-wire connection, 16 bit, Ex i
EL3208	8-channel input terminal PT100 (RTD) for resistance sensors, 16 bit, 2-wire system
EL3214	4-channel input terminal PT100 (RTD) for resistance sensors, 16 bit, 3-wire system
EL3214-0090	4-channel input terminal PT100 (RTD) for resistance sensors, 16 bit, 3-wire system, TwinSAFE SC
EL3255	5-channel input, potentiometer measurement with sensor supply
EL3311	1-channel thermocouple input, 16 bit
EL3312	2-channel thermocouple input, 16 bit
ELX3312	2-channel input terminal thermocouple/mV measurement, 2-wire connection, 16 bit, Ex i
EL3314	4-channel thermocouple input, 16 bit
EL3314-0090	4-channel thermocouple input, 16 bit, TwinSAFE SC
ELX3314	4-channel input terminal thermocouple/mV measurement, 2-wire connection, 16 bit, Ex i
EL3318	8-channel thermocouple input, 16 bit
ELX3351	1-channel analog input terminal strain gauge, 16 bit, Ex i
EL3403	3-phase power measurement terminal up to 500 V
EL3403-0010	3-phase power measurement terminal, 500 V AC, 5 A
EL3413	3-phase power measurement terminal up to 690 V AC
EL3423	3-phase energy measurement terminal Economy
EL3433	3-phase power measurement terminal 500 V AC
EL3443	3-phase power measurement terminal with extended functionality
EL3483	3-phase grid status terminal for voltage, frequency and phases
EL3483-0060	3-phase mains monitoring terminal with voltage measurement
EL3602	2-channel analog input terminal $\pm 10$ V, $\pm 5$ V, $\pm 2.5$ V, $\pm 1.25$ V, differential input, 24 bit
EL3612	2-channel analog input terminal 0...20 mA, differential input, 24 bit
EL3681	Digital multimeter terminal
EL3702	2-channel analog input terminal -10...+10 V with oversampling
EL3742	2-channel analog input 0...20 mA, differential inputs, 16 bit, oversampling
ELM3102-0000	2-channel analog input terminal -20/0/+4...+20 mA, 24 bit, 20 ksps, push-in, service plug, 2-pin
ELM3104-0000	4-channel analog input terminal -20/0/+4...+20 mA, 24 bit, 10 ksps, push-in, service plug, 2-pin
ELM3502-0000	2-channel measuring bridge analysis, full/half/quarter bridge, 24 bit, 20 ksps, push-in, service plug, 6-pin
ELM3002-0000	2-channel analog input terminal $\pm 30$ V... $\pm 20$ mV, 24 bit, 20 ksps, push-in, service plug, 2-pin
ELM3004-0000	4-channel analog input terminal $\pm 30$ V... $\pm 20$ mV, 24 bit, 10 ksps, push-in, service plug, 2-pin
ELM3602-0002	2-channel IEPE analysis, 24 bit, 50 ksps, BNC, shielded
ELM3604-0000	4-channel IEPE analysis, 24 bit, 20 ksps, push-in, service plug, 2-pin
<b>Analog output</b>	
EL4001	1-channel analog output terminal 0...10 V, 12 bit
EL4002	2-channel analog output terminal 0...10 V, 12 bit
EL4004	4-channel analog output terminal 0...10 V, 12 bit, 4 x 2-wire system
EL4008	8-channel analog output terminal 0...10 V, 12 bit, 1-wire system
EL4011	1-channel analog output terminal 0...20 mA, 12 bit
EL4012	2-channel analog output terminal 0...20 mA, 12 bit
EL4014	4-channel analog output terminal 0...20 mA, 12 bit, 4 x 2-wire system
EL4018	8-channel analog output terminal 0...20 mA, 12 bit, 1-wire system
EL4021	1-channel analog output terminal 4...20 mA, 12 bit
EL4022	2-channel analog output terminal 4...20 mA, 12 bit
EL4024	4-channel analog output terminal 4...20 mA, 12 bit, 4 x 2-wire system

EL4028	8-channel analog output terminal 4...20 mA, 12 bit, 1-wire system
EL4031	1-channel analog output terminal -10 V...+10 V, 12 bit
EL4032	2-channel analog output terminal -10 V...+10 V, 12 bit
EL4034	4-channel analog output terminal -10 V...+10 V, 12 bit, 4 x 2-wire system
EL4038	8-channel analog output terminal -10 V...+10 V, 12 bit, 1-wire system
EL4102	2-channel analog output 0...10 V, 16 bit
EL4104	4-channel analog output 0...10 V, 16 bit
EL4132	2-channel analog output -10...+10 V, 16 bit
EL4134	4-channel analog output -10...+10 V, 16 bit
ELX4181	1-channel analog output terminal 0/4...20 mA, single-ended, HART, 16 bit, Ex i
EL4732	2-channel analog output -10...+10 V, with oversampling
<b>Position measurement</b>	
EL5001	1-channel SSI encoder interface
EL5001-0011	SSI monitor terminal, no clock output (simply listening)
EL5002	2-channel SSI encoder interface
EL5021-0090	1-channel SinCos encoder interface, 1 V <sub>pp</sub> , TwinSAFE SC
EL5101	Incremental encoder interface with differential input, 16/32 bit
EL5101-0010	incremental encoder interface, 20 million increments/s (with 4-fold evaluation), no single-ended operation
EL5101-0011	Incremental encoder interface with oversampling
EL5101-0090	incremental encoder interface with differential input, 32 bit, TwinSAFE SC
EL5151	1-channel incremental encoder interface, 32 bit
ELX5151	1-channel incremental encoder interface NAMUR, 32 bit, Ex i
EL5151-0021	1-channel incremental encoder interface with parameterisable 24 V DC output
EL5151-0090	1-channel incremental encoder interface, 32 bit, TwinSAFE SC
EL5152	2-channel incremental encoder interface, 32 bit
<b>Communication</b>	
EL6001	EtherCAT Terminal, serial interface RS232
EL6002	EtherCAT Terminal, 2-channel serial interface RS232
EL6021	EtherCAT Terminal, serial interface RS422/RS485
EL6022	2-channel serial interface RS422/RS485
EL6070	License key EtherCAT Terminal for TwinCAT 3.1
EL6070-0033	License key EtherCAT Terminal for TwinCAT 3.1 (programmed according to customer specifications)
EL6080	EtherCAT memory terminal 128 kbyte
EL6224	EtherCAT Terminal, IO-Link master, IP 20
EL6224-0090	EtherCAT Terminal, IO-Link master, TwinSAFE SC
EL6601	1-port Ethernet Switch terminal
EL6614	4-port Ethernet Switch terminal
EL6692	EtherCAT bridge terminal
EL6731	PROFIBUS master/slave terminal
EL6740-0010	Interbus slave terminal
EL6751	CANopen master/slave terminal
EL6752	DeviceNet master terminal
EL6752-0010	DeviceNet slave terminal
EL6861	BACnet MSTP terminal
<b>System terminals</b>	
EL9011	bus end cover for ELxxxx, cover for E-bus contacts, grey
EL9012	bus end cover for ELxxxx, cover for power and E-bus contacts, grey
ELX9012	bus end cover for ELxxxx, cover for power and E-bus contacts, blue
EL9080	Isolation terminal
EL9100	Passive potential feed terminal, 24 V DC

<a href="#">EL9110</a>	Power supply terminal with diagnostics, 24 V DC
<a href="#">EL9181</a>	Potential distribution terminals with 16 terminal connections, max. 60 V AC/DC, power contacts are fed through, 2 separate potentials with 8 terminal points per potential
<a href="#">EL9182</a>	Potential distribution terminals with 16 terminal connections, max. 60 V AC/DC, power contacts are fed through, 8 separate potentials with 2 terminal points per potential
<a href="#">EL9183</a>	Potential distribution terminals with 16 terminal connections, max. 60 V AC/DC, power contacts are fed through, 1 separate potential with 16 terminal points per potential
<a href="#">EL9184</a>	Potential distribution terminal, 8 x 24 V DC, 8 x 0 V DC
<a href="#">EL9185</a>	Potential distribution terminal with 4 clamps per power contact
<a href="#">EL9188</a>	Potential distribution terminal, 16 x 24 V DC
<a href="#">EL9189</a>	Potential distribution terminal, 16 x 0 V DC
<a href="#">EL9186</a>	Potential distribution terminal, 8 x 24 V DC
<a href="#">EL9187</a>	Potential distribution terminal, 8 x 0 V
<a href="#">EL9540</a>	Surge filter field supply
<a href="#">EL9550</a>	Surge filter system and field supply
<a href="#">ELX9560</a>	power supply terminal, 24 V DC, electrically isolated

