



SIMATIC ET 200BL, analog input module, AI 8x1 2/4-wire, module diagnostics, 16 bit packing unit: 1 unit, color code CC01

General information	
Product type designation	AI 8x1 2-/4-wire
HW functional status	from FS01
Firmware version	V1.0.0
<ul style="list-style-type: none"> FW update possible 	Yes
Color code for module-specific color-coded label	CC01
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	No
<ul style="list-style-type: none"> Measuring range scalable 	No
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	STEP 7 V18 or higher; MicroWin V3.0 or higher; Configuration in ES via GSDML;
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	GSDML V2.45
Operating mode	
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> MSI 	No
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
external protection for power supply lines	Yes; 24 V DC/10 A miniature circuit breaker with type B or C tripping characteristic
Input current	
Current consumption (rated value)	12 mA
Current consumption, max.	620 mA; all channels active with 0.575 A current output from encoder supply
Encoder supply	
24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	Yes
<ul style="list-style-type: none"> Short-circuit protection 	Yes
<ul style="list-style-type: none"> Output current, max. 	575 mA
Current carrying capacity	
For P1 and P2 bus, max.	10 A
Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
<ul style="list-style-type: none"> Address space per module, max. 	16 byte

• Inputs	16 byte
Hardware configuration	
Automatic encoding	No
• Mechanical coding element	No
Formation of potential groups	
• support of potential groups	Yes
Analog inputs	
Number of analog inputs	8; Single-ended
• For current measurement	8
permissible input current for current input (destruction limit), max.	50 mA
Cycle time (all channels), min.	50 ms; per channel
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	100 Ω; 15 bit
• -20 mA to +20 mA	Yes
— Input resistance (-20 mA to +20 mA)	100 Ω; 16 bit incl. sign
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	100 Ω; 15 bit
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Integration time, parameterizable	Yes
• Interference voltage suppression for interference frequency f_1 in Hz	50 / 60 Hz
• Conversion time (per channel)	60 / 50 ms
Smoothing of measured values	
• Number of smoothing levels	4
• parameterizable	Yes
• Step: None	Yes
• Step: low	Yes; 4x smoothing
• Step: Medium	Yes; 8x smoothing
• Step: High	Yes; 16x smoothing
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	0.5 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.3 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	70 dB
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	No
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; Module-wise

• Short-circuit	No	
• Group error	No	
• Overflow/underflow	Yes; Module-wise	
Diagnostics indication LED		
• Monitoring of the supply voltage (PWR-LED)	Yes; green LED	
• Channel status display	Yes; green LED	
• for channel diagnostics	No	
• for module diagnostics	Yes; green/red DIAG LED	
Potential separation		
between backplane bus and supply voltage	Yes	
Potential separation analog inputs		
• between the channels	No	
• between the channels and backplane bus	Yes	
• between the channels and the power supply of the electronics	No	
Isolation		
Isolation tested with	500 V AC/707 V DC, type test	
Standards, approvals, certificates		
Ecological footprint		
• environmental product declaration	Yes	
Global warming potential		
— global warming potential, (total) [CO2 eq]	9.28 kg	
— global warming potential, (during production) [CO2 eq]	3.16 kg	
— global warming potential, (during operation) [CO2 eq]	6.21 kg	
— global warming potential, (after end of life cycle) [CO2 eq]	-0.106 kg	
Use in hazardous areas		
• EAC Ex	No	
Ambient conditions		
Ambient temperature during operation		
• horizontal installation, min.	-30 °C	
• horizontal installation, max.	60 °C	
• vertical installation, min.	-30 °C	
• vertical installation, max.	50 °C	
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200BL system manual	
Connection method		
Terminals		
• Conductor cross-section, min.	0.14 mm ² ; follow detailed information in System manual of ET 200BL	
• Conductor cross-section, max.	2.5 mm ² ; follow detailed information in System manual of ET 200BL	
• Number of process terminals to I/O module	16	
• Number of terminals with connection to P1 and P2 bus	2	
Dimensions		
Width	15 mm	
Height	117 mm	
Depth	74 mm	
Weights		
Weight, approx.	81 g	
Classifications		
	Version	Classification
eClass	14	27-24-26-01
eClass	12	27-24-26-01
eClass	9.1	27-24-26-01
eClass	9	27-24-26-01
eClass	8	27-24-26-01
eClass	7.1	27-24-26-01

eClass	6	27-24-26-01
ETIM	10	EC001596
ETIM	9	EC001596
ETIM	8	EC001596
ETIM	7	EC001596

Approvals / Certificates

General Product Approval



[China RoHS](#)



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Environment



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