



SIMATIC ET 200SP HA, digital input module, DI 16x24 V DC NPN HA suitable for terminal block, H0, H1, P0, color code CC40, channel diagnostics

General information	
Product type designation	DI 16x24VDC NPN HA
Firmware version	V1.0
<ul style="list-style-type: none"> FW update possible 	Yes
Usable terminal block	type H1, H0 (see system manual for details)
Color code for module-specific color-coded label	CC02
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	STEP 7 V5.7 or higher
<ul style="list-style-type: none"> PCS 7 configurable/integrated from version 	V9.1 SP2 UC8
<ul style="list-style-type: none"> PCS neo can be configured/integrated from version 	V6.0
Operating mode	
<ul style="list-style-type: none"> DI 	Yes
<ul style="list-style-type: none"> Counter 	No
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> MSI 	No
Redundancy	
<ul style="list-style-type: none"> Redundancy capability 	No
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Encoder supply	
Number of outputs	16
Output voltage (DC)	0 V
Short-circuit protection	No
24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	No
Power loss	
Power loss, typ.	1.2 W
Address area	
Address space per module	

<ul style="list-style-type: none"> Address space per module, max. 	2 byte; + 2 bytes for QI information
Hardware configuration	
Automatic encoding	
<ul style="list-style-type: none"> Mechanical coding element 	Yes
Digital inputs	
Number of digital inputs	16
Digital inputs, parameterizable	Yes
Sourcing/sinking input	Yes; Sourcing
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Input characteristic curve in accordance with IEC 61131, type 2	No
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Pulse extension	No
Time stamp	Yes; Resolution 10 ms
Edge evaluation	Yes; rising edge, falling edge, edge change
Number of simultaneously controllable inputs	
<ul style="list-style-type: none"> Number of simultaneously controllable inputs 	16
Input voltage	
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> for signal "0" 	30 V to -5 V (reference potential is L+)
<ul style="list-style-type: none"> for signal "1" 	-11 V to -30 V (reference potential is L+)
Input current	
<ul style="list-style-type: none"> for signal "1", typ. 	3 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; None / 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms (in each case + delay of 30 µs to 500 µs, depending on line length)
Cable length	
<ul style="list-style-type: none"> shielded, max. 	1 000 m
<ul style="list-style-type: none"> unshielded, max. 	600 m
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> 2-wire sensor 	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Interrupts/diagnostics/status information	
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes; channel by channel
<ul style="list-style-type: none"> Hardware interrupt 	Yes; channel by channel
Diagnoses	
<ul style="list-style-type: none"> Diagnostic information readable 	Yes
<ul style="list-style-type: none"> Monitoring the supply voltage 	Yes; module-wise
— Parameterizable	Yes
<ul style="list-style-type: none"> Monitoring of encoder power supply 	No
<ul style="list-style-type: none"> Wire break 	Yes; channel by channel
<ul style="list-style-type: none"> Short-circuit 	No
Diagnostics indication LED	
<ul style="list-style-type: none"> MAINT LED 	Yes; Yellow LED
<ul style="list-style-type: none"> Monitoring of the supply voltage (PWR-LED) 	Yes; green PWR LED
<ul style="list-style-type: none"> Channel status display 	Yes; green LED
<ul style="list-style-type: none"> for channel diagnostics 	Yes; red LED
<ul style="list-style-type: none"> for module diagnostics 	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
<ul style="list-style-type: none"> between the channels 	No
<ul style="list-style-type: none"> between the channels and backplane bus 	Yes
<ul style="list-style-type: none"> between the channels and the power supply of the electronics 	No
Isolation	
Isolation tested with	1 500 V DC/1 min, type test
Ambient conditions	

Ambient temperature during operation	
• horizontal installation, min.	-40 °C
• horizontal installation, max.	70 °C
• vertical installation, min.	-40 °C
• vertical installation, max.	60 °C

Dimensions	
Width	22.5 mm
Height	115 mm
Depth	138 mm

Weights	
Weight, approx.	150 g

Classifications			
		Version	Classification
	eClass	14	27-24-26-04
	eClass	12	27-24-26-04
	eClass	9.1	27-24-26-04
	eClass	9	27-24-26-04
	eClass	8	27-24-26-04
	eClass	7.1	27-24-26-04
	eClass	6	27-24-26-04
	ETIM	10	EC001599
	ETIM	9	EC001599
	ETIM	8	EC001599
	ETIM	7	EC001599

Approvals / Certificates

General Product Approval



[Declaration of Con-
formity](#)



General Product Approval **EMV** **For use in hazardous locations**



[Declaration of Con-
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For use in hazardous locations **Environment**



[Miscellaneous](#)



last modified:

3/10/2026