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Data sheet 6DL1131-6BH00-0PH1



SIMATIC ET 200SP HA, digital input module, DI 16X24VDC HA, suitable for terminal block H1, M1, color code CC01, channel diagnostics

General information	
Product type designation	DI 16x24VDC HA
Firmware version	V1.0
● FW update possible	Yes
Usable terminal block	TB type H1, M1 and N0
Color code for module-specific color identification plate	CC01
Product function	
● I&M data	Yes; I&M0 to I&M3
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V16
● STEP 7 configurable/integrated from version	V5.6
● PCS 7 configurable/integrated from version	V9.0
● PCS neo can be configured/integrated from version	V3.0
● PROFINET from GSD version/GSD revision	GSDML V2.3
Operating mode	
● DI	Yes
● Counter	No
● Oversampling	No
● MSI	No
Redundancy	
● Redundancy capability	Yes; With TB type M1
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
Input current	
Current consumption (rated value)	60 mA; without sensor supply
Current consumption, max.	120 mA; without sensor supply
Encoder supply	
Number of outputs	16
Output voltage, min.	18.2 V; L+ (-1 V)
Short-circuit protection	Yes; electronic (response threshold 0.7 A to 1.3 A; for IO redundancy up to 2.6 A) Ensure sufficient low-resistance cable routing to the sensor/actuator in order to attain the response threshold. Depending on the cable cross-section used, there may be constraints regarding the usable length of cable
Output current	
● up to 60 °C, max.	2 A; 1 A when mounted vertically; see derating information in Equipment Manual
● up to 70 °C, max.	1 A; See derating information in Equipment Manual
24 V encoder supply	

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● 24 V	Yes
● Short-circuit protection	Yes; electronic (response threshold 0.7 A to 1.3 A; for IO redundancy up to 2.6 A) Ensure sufficient low-resistance cable routing to the sensor/actuator in order to attain the response threshold. Depending on the cable cross-section used, there may be constraints regarding the usable length of cable
● Output current per channel, max.	0.5 A
● Output current per module, max.	2 A
Power	
Power available from the backplane bus	80 mW
Power loss	
Power loss, typ.	3.6 W; Maximum value (taking the max. encoder current and the max. operating voltage into account)
Address area	
Address space per module	
● Address space per module, max.	2 byte; + 2 bytes for QI information (additional 18 bytes when using high-precision time stamping)
Hardware configuration	
Automatic encoding	
● Mechanical coding element	Yes
Digital inputs	
Number of digital inputs	16
Digital inputs, parameterizable	Yes
Source/sink input	Yes; P-reading
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	Yes
● Length	off, 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s
Time stamping	Yes; Resolution 10 ms
Time stamp (with precision of 1 ms)	Yes; Resolution 1ms
Edge evaluation	Yes; rising edge, falling edge, edge change
Input voltage	
● Rated value (DC)	24 V
● for signal "0"	-30 to +5 V
● for signal "1"	+11 to +30V
Input current	
● for signal "1", typ.	2.5 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
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Encoder	
Connectable encoders	
● 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
● Diagnostic alarm	Yes; channel by channel
● Hardware interrupt	Yes; channel by channel
Diagnoses	
● Diagnostic information readable	Yes
● Monitoring the supply voltage	Yes; Module-wise
— parameterizable	Yes
● Monitoring of encoder power supply	Yes
● Wire-break	Yes; Channel-by-channel, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 15 kOhm to 18 kOhm
● Short-circuit to M	Yes; Encoder supply to M, channel by channel
Diagnostics indication LED	
● MAINT LED	Yes; Yellow LED

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● Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
● Channel status display	Yes; green LED
● for channel diagnostics	Yes; red LED
● for module diagnostics	Yes; green/red LED
Potential separation	
Potential separation channels	
● 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	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.	135 g

last modified: 8/18/2023

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