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Data sheet 6DL1136-6TH00-0PH1



SIMATIC ET 200SP HA, digital input module, safety-oriented F-DI 16xNAMUR HA, SIL3 (IEC 61508), up to PL e (ISO 13849-1) suitable for terminal block H0, H1, color code CC01, channel diagnostics

General information	
Product type designation	F-DI 16xNAMUR HA
HW functional status	01
Firmware version	V1.0
● FW update possible	Yes
Usable terminal block	type H1, N0, H0 (see system manual for details)
Color code for module-specific color-coded label	CC01
Product function	
● I&M data	Yes; I&M0 to I&M3
Engineering with	
● STEP 7 configurable/integrated from version	V5.6 SP2 (with S7 F systems V6.4 SP1)
● PCS 7 configurable/integrated from version	V9.1 SP2 (with S7 F systems V6.4 SP1)
● PROFINET from GSD version/GSD revision	GSDML V2.43 2024.10 (PRONETA)
Operating mode	
● DI	Yes
● Counter	No
● Oversampling	No
● MSI	No
Redundancy	
● Redundancy capability	No
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
Current consumption, max.	120 mA
Encoder supply	
Number of outputs	16
Output voltage (DC)	8.2 V
Short-circuit protection	Yes
NAMUR encoder supply	
● 8.2 V	Yes
● Short-circuit protection	Yes
● Output current per channel, max.	10 mA
Power	
Power consumption from the backplane bus	90 mW
Power loss	

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Power loss, typ.	2.2 W; All channels equipped with internal encoder supply and switch contacts, at rated voltage and ambient temperature
Address area	
Address space per module	
● Inputs	9 byte
● Outputs	5 byte
Hardware configuration	
Automatic encoding	Yes
● Mechanical coding element	Yes
Digital inputs	
Number of digital inputs	16
Digital inputs, parameterizable	Yes
Pulse extension	Yes
● Length	0 / 0.5 / 1 / 2 s
Time stamp	Yes; Resolution 10 ms
Time stamp (with precision of 1 ms)	No
Signal change flutter	Yes; 2 to 32 signal changes
Flutter observation window	Yes; 0.5 s, 1 s to 100 s in 1-s steps
Input voltage	
● Rated value (DC)	8.2 V
Input current	
● for signal "1", typ.	4.2 mA
for NAMUR encoders	
— for signal "0", max.	1.2 mA; according to IEC 60947-5-6 and NAMUR
— for signal "1", min.	2.1 mA; according to IEC 60947-5-6 and NAMUR
Cable length	
● shielded, max.	600 m
● unshielded, max.	200 m
Encoder	
Connectable encoders	
● NAMUR encoder/changeover contact according to EN 60947	Yes
● 2-wire sensor	Yes; Acc. to NAMUR
— permissible quiescent current (2-wire sensor), max.	1.2 mA
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
● Diagnostic alarm	Yes; channel by channel
● Maintenance interrupt	Yes; module-wise
Diagnoses	
● Diagnostic information readable	Yes
● Monitoring the supply voltage	Yes; module-wise
● Monitoring of encoder power supply	Yes; channel by channel
● Wire break	Yes; I < 0.35 mA
● Short-circuit	Yes; 100 ... 360 ohm
Diagnostics indication LED	
● MAINT LED	Yes; Yellow LED
● 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 load voltage L+	Yes
Isolation	
Isolation tested with	1 500 V DC/1 min, type test
Standards, approvals, certificates	

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Highest safety class achievable in safety mode	
● Performance level according to ISO 13849-1	Up to PLe
● Category according to ISO 13849-1	Cat. 4
● SIL acc. to IEC 61508	SIL 3
Probability of failure (for service life of 20 years and repair time of 100 hours)	
— Low demand mode: PFDavg in accordance with SIL3	< 4.00E-05
— High demand/continuous mode: PFH in accordance with SIL3	< 1.00E-09 1/h
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.	205 g

Classifications

	Version	Classification
eClass	16	27-24-26-04
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

Manufacturer Declaration

EMV | **For use in hazardous locations**

Declaration of Conformity

For use in hazardous locations | **Functional Saftey** | **Environment** | **Industrial Communication**

Miscellaneous | TUEV | TUEV | PROFIsafe

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