Technical specifications

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6.1 Technical specifications

Technical specifications of the DQ 4×24VDC/2A HF

	6ES7132-6BD20-0CA0
General information	
Product type designation	ET 200SP, DQ 4x24VDC/2A HF, PU 1
Firmware version	V2.0
• FW update possible	Yes
Usable BaseUnits	BU type A0
Color code for module-specific color identification label	CC02
Product function	
I&M data	Yes; I&M0 to I&M3
Engineering with	
STEP 7 TIA Portal can be configured/integrated as of version	V13 SP1 / -
STEP 7 can be configured/integrated as of version	V5.5 / -
PROFIBUS as of GSD version/GSD revision	GSD revision 5
PROFINET as of GSD version/GSD revision	GSDML V2.3
Operating mode	
DQ	Yes
DQ with energy-saving function	No
PWM	No
Oversampling	No
MSO	Yes
Supply voltage	
Rated value (DC)	24 V
Valid range, low limit (DC)	19.2 V
Valid range, high limit (DC)	28.8 V
Polarity reversal protection	Yes
Output voltage	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W

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Address area	
Address space per module	
Address space per module, max.	4 bytes; 2 channels per submodule + QI information
Digital outputs	
Number of outputs	4
Sinking output	No
Sourcing output	Yes
Short-circuit protection	Yes
• Response threshold, typ.	2.8 ... 5.2 A
Limitation of inductive shutdown voltage to	L+ -(37 to 41V)
Control of a digital input	Yes; minimum current consumption 7 mA
Switching capacity of outputs	
With resistive load, max.	2 A
With lamp load, max.	10 W
Load resistance range	
Low limit	12 Ω
High limit	3400 Ω
Output current	
For signal "1" rated value	2 A
For signal "0" residual current, max.	0.1 mA
Output delay with resistive load	
"0" to "1", typ.	50 µs
"1" to "0", typ.	100 µs
Parallel connection of two outputs	
For increased performance	No
Switching frequency	
With resistive load, max.	100 Hz
With inductive load, max.	2 Hz
With lamp load, max.	10 Hz
Total current of the outputs	
Current per channel, max.	2 A
Current per module, max.	8 A
Total current of the outputs (per module)	
Horizontal installation	
• Up to 40 °C, max.	8 A
• Up to 50 °C, max.	6 A
• Up to 60 °C, max.	4 A
Vertical installation	
• Up to 30 °C, max.	8 A
• Up to 40 °C, max.	6 A
• Up to 50 °C, max.	4 A

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Cable length	
Shielded, max.	1000 m
Unshielded, max.	600 m
Isochronous mode	
Isochronous mode (application synchronized up to terminal)	Yes
Bus cycle time (TDP), min.	500 µs
Jitter, max.	8 µs
Interrupts/diagnostics/status information	
Substitute values can be applied	Yes
Interrupts	
Diagnostics interrupt	Yes
Diagnostics alarms	
Diagnostics	Yes
Monitoring of the supply voltage	Yes
Wire break	Yes; channel-based
Short-circuit	Yes; channel-based
Group error	Yes
Diagnostics indicator 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 DIAG LED
Electrical isolation	
Electrical isolation of channels	
Between the channels	No
Between the channels and backplane bus	Yes
Permitted potential difference	
Between different circuits	75 V DC / 60 V AC (basic insulation)
Insulation	
Insulation tested with	707 V DC (type test)
Dimensions	
Width	15 mm
Weights	
Weight, approx.	30 g

Safety-related shutdown

Note

The digital output module DQ 4x24VDC/2A HF supports safety-related shutdown in connection with a fail-safe power module F-PM-E 24VDC/8A PPM ST:

- SIL according to IEC 61508: 2
- Highest attainable safety class in safety mode, performance level according to EN ISO 13849-1: d

Residual current for signal state "0"

Note

Residual current for signal state "0"

Due to the Diagnostics: Wire break function, there is a low level of residual current in the "0" signal state at the output, which may cause the display diodes to flicker.

This residual current does not depend on the setting for the Diagnostics: Wire break parameter.

Derating trend

The following figure show the load current derating with horizontal and vertical mounting positions.

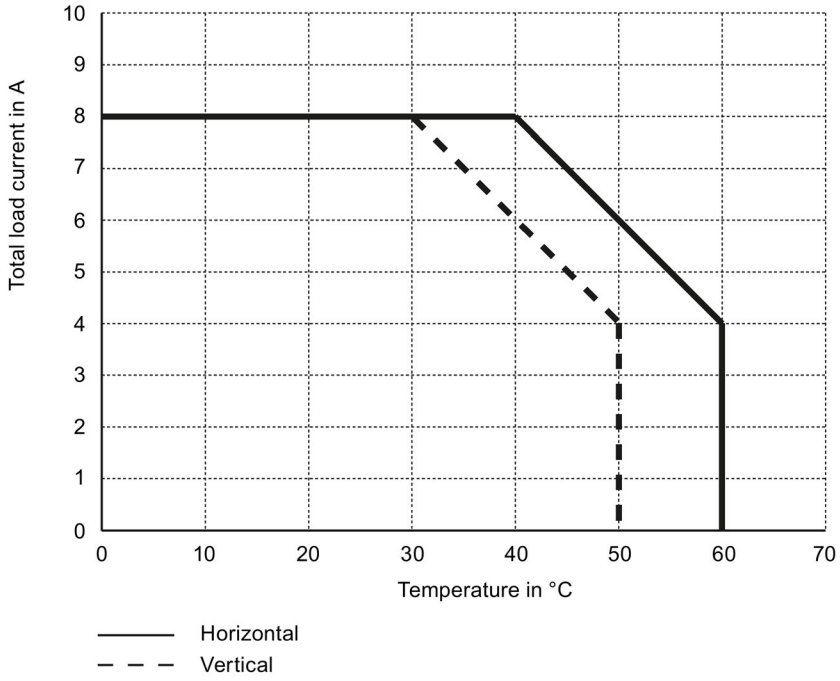


Image 6-1 Load current for mounting position

Dimension drawing

See manual ET 200SP BaseUnits
(http://support.automation.siemens.com/WW/view/en/58532597/133300)