

## I/O systems

SIMATIC ET 200 systems for the control cabinet  
SIMATIC ET 200SP HA

### Digital I/O modules

#### Overview



- DI 16×24VDC HA digital input module  
Sixteen 24 V DC digital inputs
- DI 32 × 24VDC HA digital input module  
Thirty-two 24 V DC digital inputs
- DI 16×NAMUR HA digital input module  
Sixteen NAMUR digital inputs
- DI 8×24...125VDC HA digital input module  
Eight 24 to 125 V DC digital inputs
- DI 8×230VAC HA digital input module  
Eight 230 V AC digital inputs
- DQ 16×24VDC/0.5A HA digital output module  
Sixteen 24 V DC digital outputs, 0.5 A
- DQ 32×24VDC/0.5A HA digital output module  
Thirty-two 24 V DC digital outputs, 0.5 A
- RQ 4×120VDC-230VAC/5 A CO HA digital output module  
Four 24 to 120 V DC, 24 to 230 V AC relay outputs, 5 A

#### Technical specifications

Article number	6DL1131-6GF00-0PK0	6DL1131-6BH00-0PH1	6DL1131-6BL00-0PH1	6DL1131-6DF00-0PK0	6DL1131-6TH00-0PH1
	ET 200SP HA, DI 8X230VAC	ET 200SP HA, DI 16X24VDC	ET 200SP HA, DI 32X24VDC	ET 200SP HA, DI 8X24 ... 125VDC	ET 200SP HA, DI 16XNAMUR
<b>General information</b>					
Product type designation	DI 8x230VAC HA	DI 16x24VDC HA	DI 32x24VDC HA	DI 8x24 ... 125 V DC HA	DI 16xNAMUR HA
<b>Engineering with</b>					
• PCS 7 configurable/integrated as of version	V9.0	V9.0	V9.0	V9.0	V9.0
<b>Operating mode</b>					
• DI	Yes	Yes	Yes	Yes	Yes
• Counter		No	No	No	No
• Oversampling		No	No	No	No
• MSI		No	No	No	No
<b>Supply voltage</b>					
Rated value (DC)		24 V	24 V	24 V	24 V
Rated value (AC)	230 V				
Reverse polarity protection		Yes	Yes	Yes	Yes
<b>Encoder supply</b>					
Number of outputs		16	32; When terminal block with encoder supply is used (type P0)		16
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	Yes; When using TB type P0		Yes
<b>Output current</b>					
• 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			

#### Technical specifications

Article number	<b>6DL1131-6GF00-0PK0</b> ET 200SP HA, DI 8X230VAC	<b>6DL1131-6BH00-0PH1</b> ET 200SP HA, DI 16X24VDC	<b>6DL1131-6BL00-0PH1</b> ET 200SP HA, DI 32X24VDC	<b>6DL1131-6DF00-0PK0</b> ET 200SP HA, DI 8X24 ... 125VDC	<b>6DL1131-6TH00-0PH1</b> ET 200SP HA, DI 16XNAMUR
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• horizontal installation, min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• horizontal installation, max.	70 °C	70 °C	70 °C	70 °C	70 °C
• vertical installation, min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• vertical installation, max.	60 °C	60 °C	60 °C	60 °C	60 °C
<b>Dimensions</b>					
Width	22.5 mm	22.5 mm	22.5 mm	22.5 mm	22.5 mm
Height	115 mm	115 mm	115 mm	115 mm	115 mm
Depth	138 mm	138 mm	138 mm	138 mm	138 mm
<b>Weights</b>					
Weight, approx.	148 g	135 g	150 g	165 g	153 g
Article number	<b>6DL1132-6BH00-0PH1</b> ET 200SP HA, DQ 16X24VDC/0,5A		<b>6DL1132-6BL00-0PH1</b> ET 200SP HA, DQ 32X24VDC/0,5A		<b>6DL1132-6HD50-0PK0</b> ET 200SP HA, RQ 4X120VDC-230VAC/5A CO
<b>General information</b>					
Product type designation	DQ 16x24VDC/0.5A HA		DQ 32x24VDC/0.5A HA		RQ 4x120 V UC ... 230 V AC/ 5 A CO HA
<b>Engineering with</b>					
• PCS 7 configurable/integrated as of version	V9.0		V9.0		V9.0
<b>Operating mode</b>					
• DQ	Yes		Yes		
• DQ with energy-saving function	No		No		
• PWM	No		No		
• Oversampling	No		No		
• MSO	No		No		
<b>Supply voltage</b>					
Rated value (DC)	24 V		24 V		24 V
Reverse polarity protection	Yes		Yes		Yes
<b>Digital outputs</b>					
Number of digital outputs	16		32		4
Current-sinking	No		No		
Current-sourcing	Yes		Yes		
Digital outputs, parameterizable	Yes		Yes		
Short-circuit protection	Yes; 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.		Yes; Clocked electronically		
Open-circuit detection	Yes; 0.7 mA test current for wire-break diagnostics; this value is doubled in the case of IO redundancy		No		
Overload protection	Yes		Yes		
Limitation of inductive shutdown voltage to	L+ -(37 to 41V)		Typ. L+ (-53 V)		
Controlling a digital input	Yes		Yes		
<b>Switching capacity of the outputs</b>					
• with resistive load, max.	0.5 A		0.5 A		
• on lamp load, max.	5 W		5 W		
<b>Load resistance range</b>					
• lower limit	48 Ω		48 Ω		
• upper limit	12 kΩ		4 kΩ		

**I/O systems**SIMATIC ET 200 systems for the control cabinet  
SIMATIC ET 200SP HA**Digital I/O modules****Ordering data****Article No.**

<b>DI 16×24 V DC HA digital input module</b> Sixteen 24 V DC digital inputs, color code CC01, for terminal block type H1 and M1, channel diagnostics	<b>6DL1131-6BH00-0PH1</b>
<b>DI 32×24 V DC HA digital input module</b> Thirty-two 24 V DC digital inputs, color code CC00, for terminal block type P0 and H1, channel diagnostics	<b>6DL1131-6BL00-0PH1</b>
<b>DI 16×NAMUR HA digital input module</b> Sixteen NAMUR digital inputs, color code CC01, for terminal block type H1 and M1, channel diagnostics	<b>6DL1131-6TH00-0PH1</b>
<b>DI 8×24 to 125 V DC HA digital input module</b> Eight 24 to 125 V DC digital inputs, color code CC42, for terminal block type K0, channel diagnostics	<b>6DL1131-6DF00-0PK0</b>
<b>DI 8×230 V AC HA digital input module</b> Eight 230 V AC digital inputs, color code CC42, for terminal block type K0, module diagnostics	<b>6DL1131-6GF00-0PK0</b>
<b>DQ 16×24 V DC/0.5A HA digital output module</b> Sixteen 24 V DC digital outputs, 0.5 A, color code CC02, for terminal block type H1 and M1, channel diagnostics	<b>6DL1132-6BH00-0PH1</b>
<b>DQ 32×24 V DC/0.5 A HA digital output module</b> Thirty-two 24 V DC digital outputs, 0.5 A, color code CC00, for terminal block type N0 and H1, channel diagnostics	<b>6DL1132-6BL00-0PH1</b>
<b>RQ 4×120 V DC-230 V AC/5A CO HA digital output module</b> Four 24 to 120 V DC, 24 to 230 V AC relay outputs, 5 A, color code CC40, for terminal block type K0, module diagnostics	<b>6DL1132-6HD50-0PK0</b>

**Article No.****Accessories****Labeling strips**

For labeling the I/O modules

- Roll, light gray (with a total of 500 labeling strips), 1 unit
- A4 sheets, light gray (with a total of 1 000 labeling strips), 10 units

**6DL1193-6LR00-0AA0****6DL1193-6LA00-0AA0****Color-coding labels**

For push-in terminals

- Color code CC01, 10 units gray (terminals 1 to 16), red (terminals 17 to 32)
- Color code CC02, 10 units gray (terminals 1 to 16), blue (terminals 17 to 32)
- Color code CC40, 10 units gray (terminals 1 to 16)
- Color code CC42, 10 units gray (terminals 1 to 8), blue (terminals 9 to 16)

**6DL1193-6CP01-2HH1****6DL1193-6CP02-2HH1****6DL1193-6CP40-2HK0****6DL1193-6CP42-2HK0****Equipment labeling plates**

10 sheets with 16 plates each

**6ES7193-6LF30-0AW0****PM cover**Slot cover for I/O modules, to protect vacant I/O slots  
Width 22.5 mm, 5 units**6DL1133-6CV22-0AM0**