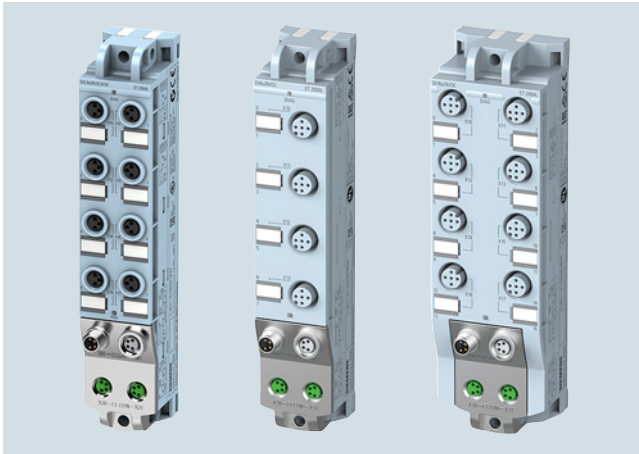


Overview



- 30 and 45 mm-wide modules with parameters and diagnostic functions
- 8-channel digital input module with M8 or M12 connection
- 16-channel digital input module with M12 connection
- 8-channel digital input/output module with M8 or M12 connection
- 16-channel digital input/output module with M12 connection
- 8-channel digital output module 2 A with M12 connection

Technical specifications

Article number	6ES7141-5BF00-0BA0 ET 200AL, DI 8X24VDC, 8XM8	6ES7141-5AF00-0BA0 ET 200AL, DI 8X24VDC, 4XM12	6ES7141-5AH00-0BA0 ET 200AL, DI 16X24VDC, 8XM12
General information			
Product type designation	DI 8x24VDC, 8xM8	DI 8x24VDC, 4XM12	DI 16x24VDC, 8XM12
HW functional status	E01	E01	E01
Firmware version	V1.0.x	V1.0.x	V1.0.x
Product function			
• I&M data	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3
Engineering with			
• STEP 7 TIA Portal configurable/ integrated as of version	STEP 7 V13 SP1 or higher	STEP 7 V13 SP1 or higher	STEP 7 V13 SP1 or higher
• STEP 7 configurable/integrated as of version	From V5.5 SP4 Hotfix 3	V5.5 SP4 Hotfix 7 or higher	V5.5 SP4 Hotfix 7 or higher
• PROFIBUS as of GSD version/ GSD revision	GSD as of Revision 5	GSD as of Revision 5	GSD as of Revision 5
• PROFINET as of GSD version/ GSD revision	GSDML V2.3.1	GSDML V2.3.1	GSDML V2.3.1
Supply voltage			
Load voltage 1L+			
• Rated value (DC)	24 V	24 V	24 V
• Reverse polarity protection	Yes; Against destruction; encoder power supply outputs applied with reversed polarity	Yes; Against destruction; encoder power supply outputs applied with reversed polarity	Yes; Against destruction; encoder power supply outputs applied with reversed polarity
Input current			
Current consumption (rated value) from load voltage 1L+ (unswitched voltage)	25 mA; without load 4 A; Maximum value	25 mA; without load 4 A; Maximum value	30 mA; without load 4 A; Maximum value
from load voltage 2L+, max.	4 A; Maximum value	4 A; Maximum value	4 A; Maximum value
Encoder supply			
Number of outputs	8	4	8
24 V encoder supply			
• Short-circuit protection	Yes; per module, electronic	Yes; per module, electronic	Yes; per module, electronic
• Output current, max.	0.7 A; Total current of all encoders	0.7 A; Total current of all encoders	1.4 A; Total current of all encoders
Power loss			
Power loss, typ.	1.9 W	1.9 W	2.7 W
Digital inputs			
Number of digital inputs	8	8	16
Input characteristic curve in accordance with IEC 61131, type 3	Yes	Yes	Yes

I/O systems

SIMATIC ET 200 systems without control cabinet

SIMATIC ET 200AL

I/O modules > Digital I/O modules**Technical specifications (continued)**

Article number	6ES7141-5BF00-0BA0 ET 200AL, DI 8X24VDC, 8XM8	6ES7141-5AF00-0BA0 ET 200AL, DI 8X24VDC, 4XM12	6ES7141-5AH00-0BA0 ET 200AL, DI 16X24VDC, 8XM12
Number of simultaneously controllable inputs			
all mounting positions			
- up to 55 °C, max.	8	8	16
Input voltage			
• Type of input voltage	DC	DC	DC
• Rated value (DC)	24 V	24 V	24 V
• for signal "0"	-30 to +5V	-30 to +5V	-30 to +5V
• for signal "1"	+11 to +30V	+11 to +30V	+11 to +30V
Input current			
• for signal "1", typ.	3.2 mA	3.2 mA	3.2 mA
Input delay (for rated value of input voltage) for standard inputs			
- at "0" to "1", min.	1.2 ms	1.2 ms	1.2 ms
- at "0" to "1", max.	4.8 ms	4.8 ms	4.8 ms
- at "1" to "0", min.	1.2 ms	1.2 ms	1.2 ms
- at "1" to "0", max.	4.8 ms	4.8 ms	4.8 ms
Cable length			
• unshielded, max.	30 m	30 m	30 m
Encoder			
Connectable encoders			
• 2-wire sensor	Yes	Yes	Yes
- permissible quiescent current (2-wire sensor), max.	1.5 mA	1.5 mA	1.5 mA
Interrupts/diagnostics/status information			
Alarms			
• Diagnostic alarm	Yes; Parameterizable	Yes; Parameterizable	Yes; Parameterizable
Diagnostic messages			
• Short-circuit	Yes; Sensor supply to M; module by module	Yes; Sensor supply to M; module by module	Yes; Sensor supply to M; module by module
Diagnostics indication LED			
• Channel status display	Yes; Green LED	Yes; Green LED	Yes; Green LED
• for module diagnostics	Yes; Green/red LED	Yes; Green/red LED	Yes; Green/red LED
Potential separation			
between the load voltages	Yes	Yes	Yes
Potential separation channels			
• between the channels	No	No	No
• between the channels and backplane bus	Yes	Yes	Yes
• between the channels and the power supply of the electronics	No	No	No
Isolation			
Isolation tested with	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)
Degree and class of protection			
Degree of protection acc. to EN 60529			
• IP65	Yes	Yes	Yes
• IP67	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.	-25 °C	-25 °C	-25 °C
• max.	55 °C	55 °C	55 °C
Connection method			
Design of electrical connection for the inputs and outputs	M8, 3-pole	M12, 5-pole	M12, 5-pole
Power supply	M8, 4-pole	M8, 4-pole	M8, 4-pole
ET-Connection			
• ET-Connection	M8, 4-pin, shielded	M8, 4-pin, shielded	M8, 4-pin, shielded

Technical specifications (continued)

Article number	6ES7143-5BF00-0BA0 ET 200AL, DIQ 4+DQ 4X24VDC/0.5A, 8XM8	6ES7143-5AF00-0BA0 ET 200AL, DIQ 4+DQ 4X24VDC/0.5A, 4XM12	6ES7143-5AH00-0BA0 ET 200AL, DIQ 16x24VDC/0.5A, 8xM12
Connection method			
Design of electrical connection for the inputs and outputs	M8, 3-pole	M12, 5-pole	M12, 5-pole
Power supply	M8, 4-pole	M8, 4-pole	M8, 4-pole
ET-Connection			
• ET-Connection	M8, 4-pin, shielded	M8, 4-pin, shielded	M8, 4-pin, shielded
Dimensions			
Width	30 mm	30 mm	45 mm
Height	159 mm	159 mm	159 mm
Depth	40 mm	40 mm	40 mm
Weights			
Weight, approx.	145 g	145 g	195 g

Ordering data

Article No.	Article No.
Digital input modules	M8 power cable
DI 8X24VDC, 8XM8	4-pin
DI 8X24VDC, 4XM12	Pre-assembled at both ends, M8 connector and M8 socket
DI 16X24VDC, 8XM12	0.19 m
Digital output modules	0.3 m
DQ 8X24VDC/2A, 8XM12	1 m
Digital input/output modules	2 m
4 DIO / 4 DO, 24 V DC, 0.5 A	5 m
DIQ 4+DQ 4X24VDC/0.5A, 4XM12	10 m
DIQ 16X24VDC/0.5A, 8XM12	15 m
Accessories	Pre-assembled at both ends, angled M8 connector and angled M8 socket
Bus cable for backplane bus (ET connection)	0.3 m
4-pin, shielded	1 m
Pre-assembled at both ends, 2 M8 connectors	2 m
0.19 m	5 m
0.3 m	10 m
1 m	15 m
2 m	Pre-assembled at one end, M8 socket
5 m	2 m
10 m	5 m
15 m	10 m
Pre-assembled at both ends, two M8 connectors, angled	15 m
0.3 m	M8 connector for ET connection
1 m	4-pin, shielded
2 m	M8 power connector
5 m	Male contact insert, 4-pin
10 m	Female contact insert, 4-pin
15 m	ET connection FastConnect stripping tool
Pre-assembled at one end, one M8 connector	Stripping tool for stripping the ET connection bus cable
2 m	Labels
5 m	10 x 5 mm, RAL 9016;
10 m	5 frames with 40 labels each
15 m	