



SIMATIC S7-1500 DIGITAL IN-/OUTPUT MODULE, DI 16X24VDC, 16 CHANNELS IN GROUPS OF 16, INPUT DELAY TYP. 3.2MS; INPUT TYPE 3 (IEC 61131), DQ 16X24VDC/0.5A; 16 CHANNELS IN GROUPS OF 8; 4A PER GROUP INCL. FRONT CONNECTOR PUSH-IN

General information	
Hardware product version	E01
Firmware version	V1.0.0
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 / V13
STEP 7 can be configured/integrated as of version	V5.5 SP3 / -
PROFIBUS as of GSD version/GSD revision	V1.0 / V5.1
PROFINET as of GSD version/GSD revision	V2.3 / -
Operating mode	
MSI	Yes
MSO	Yes
Supply voltage	
Rated value (DC)	24 V

permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes; through internal protection with 7 A per group
Input current	
Current consumption, max.	30 mA
Power	
Power available from the backplane bus	1.1 W
Power losses	
Power loss, typ.	3.45 W
Digital inputs	
Number of digital inputs	16
m/p-reading	p-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Input voltage	
• Type of input voltage	DC
• Rated value, DC	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+11 to +30 V
Input current	
• for signal "1", typ.	2.7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— Parameterizable	No
— at "0" to "1", min.	3 ms
— at "0" to "1", max.	4 ms
— at "1" to "0", min.	3 ms
— at "1" to "0", max.	4 ms
for interrupt inputs	
— Parameterizable	No
Cable length	
• Cable length, shielded, max.	1 000 m
• Cable length unshielded, max.	600 m
Digital outputs	
Number of digital outputs	16
Current-sourcing	Yes

short-circuit protection	Yes
• Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• with resistive load, max.	0.5 A
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	12 k Ω
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range, max.	0.5 A
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	100 μ s
• "1" to "0", max.	500 μ s
Parallel switching of 2 outputs	
• for logic links	Yes
• for increased power	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	10 Hz
Aggregate current of the outputs	
• Max. current per channel	0.5 A; see additional description in the manual
• Max. current per group	4 A; see additional description in the manual
• Max. current per module	8 A; see additional description in the manual
Cable length	
• Cable length, shielded, max.	1 000 m
• Cable length unshielded, max.	600 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes

— Permissible quiescent current (2-wire sensor), max.

1.5 mA

Isochronous mode

Isochronous operation (application synchronized up to terminal)

No

Interrupts/diagnostics/status information

Substitute values connectable

No

Alarms

- Diagnostic alarm
- Hardware interrupt

No

No

Diagnostic messages

- Diagnostics
- Monitoring the supply voltage
- Wire break
- Short circuit

No

No

No

No

Diagnostics indication LED

- RUN LED
- ERROR LED
- MAINT LED
- Monitoring of the supply voltage (PWR-LED)
- Channel status display
- for channel diagnostics
- for module diagnostics

Yes; Green LED

Yes; Red LED

No

Yes; Green LED

Yes; Green LED

No

No

Galvanic isolation

Electrical isolation channels

- between the channels
- between the channels, in groups of
- between the channels and the backplane bus

No

8

Yes

Permissible potential difference

between different circuits

75 V DC/60 V AC (base isolation)

Isolation

Isolation checked with

707 V DC (type test)

Decentralized operation

Prioritized startup

Yes

Dimensions

Width

25 mm

Height	147 mm
Depth	129 mm

Weights

Weight, approx.	280 g
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other

Note:	Supplied incl. 40-pole push-in front connectors
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last modified:	30.09.2014
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