

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7288-2DR08-0AA0

EM DR08 Digital Output Module

OFFICIAL SOURCE

S7-200 SMART System Manual, V2.8

A5E03822230-AL

[Selected official Siemens pages follow this cover](#)

A.3 Digital inputs and outputs expansion modules (EMs)

Pin	X10	X11	X12	X13
3	1M	2M	3M	4M
4	DI a.0	DI a.4	DI b.0	DI b.4
5	DI a.1	DI a.5	DI b.1	DI b.5
6	DI a.2	DI a.6	DI b.2	DI b.6
7	DI a.3	DI a.7	DI b.3	DI b.7

A.3.2 EM DT08, EM DR08, EM QR16, and EM QT16 digital output specifications

Table A-78 General specifications

Model	EM Digital 8 x Outputs (EM DT08)	EM Digital 8 x Outputs Relay (EM DR08)	EM Digital 16 x Outputs Relay (EM QR16)	EM Digital 16 x Outputs Transistor (EM QT16)
Article number	6ES7288-2DT08-0AA0	6ES7288-2DR08-0AA0	6ES7288-2QR16-0AA0	6ES7288-2QT16-0AA0
Dimensions W x H x D (mm)	45 x 100 x 81	45 x 100 x 81	45 x 100 x 81	45 x 100 x 81
Weight	147 grams	166.3 grams	221 grams	186 grams
Power dissipation	1.5 W	4.5 W	4.5 W	1.7 W
Current consumption (SM Bus)	120 mA	120 mA	110 mA, SM bus	120 mA, SM bus
Current consumption (24 V DC)	--	11 mA / relay coil used	150 mA, all relay are on	50 mA

Table A-79 Digital outputs

Model	EM Digital 8 x Outputs (EM DT08)	EM Digital 8 x Outputs Relay (EM DR08)	EM Digital 16 x Outputs Relay (EM QR16)	EM Digital 16 x Outputs Transistor (EM QT16)
Number of outputs	8	8	16	16
Type	Solid state - MOSFET (sourcing)	Relay, dry contact	Relay, dry contact	Solid state - MOSFET (sourcing)
Voltage range	20.4 to 28.8 V DC	5 to 30 V DC or 5 to 250 V AC	5 to 30 V DC or 5 to 250 V AC	20.4 to 28.8 V DC
Logic 1 signal at max. current	20 V DC	-	-	20 V DC
Logic 0 signal with 10 K Ω load	0.1 V DC	-	-	0.1 V DC
Rated current per point (max.)	0.75 A	2.0 A	2.0 A	0.75 A
Rated current per common (max.)	3 A	8 A	8 A	3 A
Lamp load	5 W DC	30 W DC / 200 W AC	30 W DC/200 W AC	5 W
ON state contact resistance	0.6 Ω	0.2 Ω max. when new	0.2 Ω max. when new	0.6 Ω max.
Leakage current per point	10 μ A	--	--	10 μ A
Surge current	8 A for 100 ms max.	7 A with contacts closed	7 A with contacts closed	8 A for 100 ms max.
Overload protection	No	No	No	No

A.3 Digital inputs and outputs expansion modules (EMs)

Model	EM Digital 8 x Outputs (EM DT08)	EM Digital 8 x Outputs Relay (EM DR08)	EM Digital 16 x Outputs Relay (EM QR16)	EM Digital 16 x Outputs Transis- tor (EM QT16)
Isolation (field side to logic)	Optical, 500 V AC for 1 minute	1500 V AC for 1 minute (coil to contact) None (coil to logic)	1500 V AC for 1 minute (coil to contact) None (coil to logic)	500 V AC for 1 minute
Isolation resistance	-	100 M Ω min. when new	100 M Ω min. when new	-
Isolation between open contacts	-	750 V AC for 1 minute	750 V AC for 1 minute	-
Isolation groups	2	2	4	4
Inductive clamp voltage	Minus 48 V DC, 1 W dissipation	-	-	L+ minus 48 V, 1 W dissipation
Switching delay	Switch on less than 50 μ s and switch off less than 200 μ s	10 ms max.	10 ms max.	Switch on less than 50 μ s and switch off less than 200 μ s
Lifetime mechanical (no load)	--	10,000,000 open/close cycles	10,000,000 open/close cycles	-
Lifetime contacts at rated load	--	100,000 open/close cycles	100,000 open/close cycles	-
Output behavior in STOP	Last value or substitute value (default value 0)	Last value or substitute value (default value 0)	Last value or substitute value (default value 0)	Last value or substitute value (default value 0)
Number of outputs on simultaneously	8	8	16	16
Cable length (max.), in meters	Shielded: 500 m Unshielded: 150 m	Shielded: 500 m Unshielded: 150 m	Shielded: 500 m Unshielded: 150 m	Shielded: 500 m Unshielded: 150 m

A.3 Digital inputs and outputs expansion modules (EMs)

Table A-80 Wiring diagrams for the EM DT08 Digital 8 x Outputs (6ES7288-2DT08-0AA0) and EM DR08 Digital 8 x Outputs x Relay (6ES7288-2DR08-0AA0)

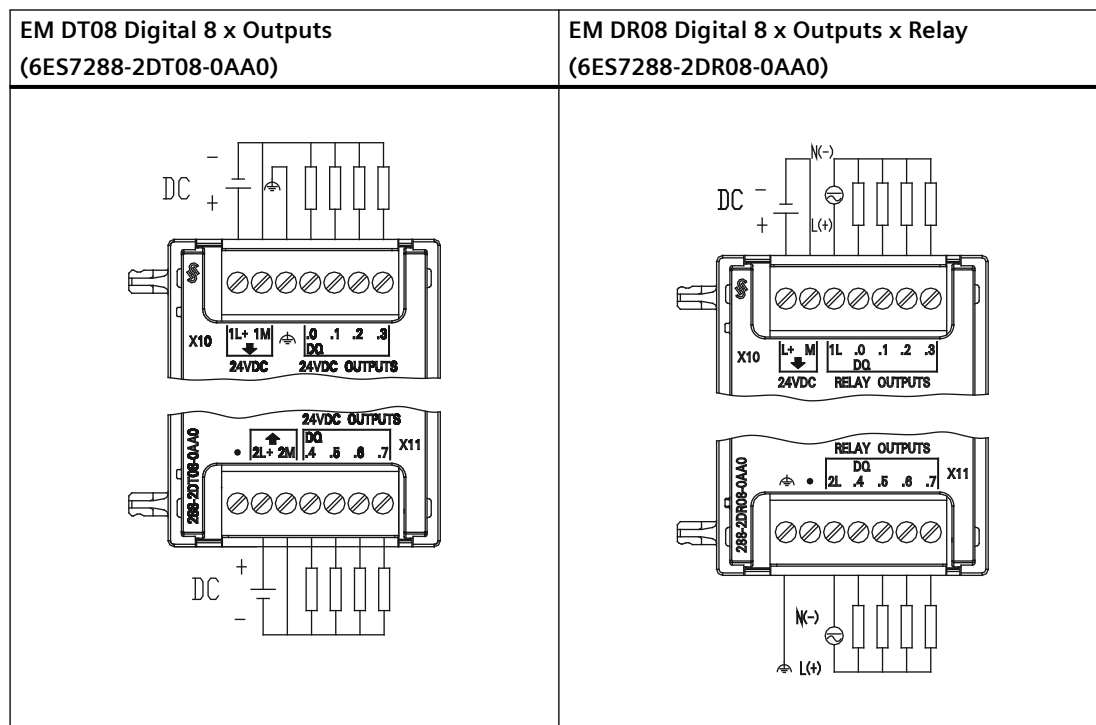


Table A-81 Connector pin locations for EM DT08 Digital 8 x Outputs (6ES7288-2DT08-0AA0)

Pin	X10	X11
1	1L+ / 24 V DC	No connection
2	1M / 24 V DC	2L+ / 24 V DC
3	Functional Earth	2M / 24 V DC
4	DQ a.0	DQ a.4
5	DQ a.1	DQ a.5
6	DQ a.2	DQ a.6
7	DQ a.3	DQ a.7

Table A-82 Connector pin locations for EM DR08 Digital 8 x Outputs x Relay (6ES7288-2DR08-0AA0)

Pin	X10	X11
1	L+ / 24 V DC	Functional Earth
2	M / 24 V DC	No connection
3	1L	2L
4	DQ a.0	DQ a.4
5	DQ a.1	DQ a.5

A.3 Digital inputs and outputs expansion modules (EMs)

Pin	X10	X11
6	DQ a.2	DQ a.6
7	DQ a.3	DQ a.7

Table A-83 Wiring diagrams for the EM QR16 Digital 16 x Outputs Relay (6ES7288-2QR16-0AA0) and EM QT16 Digital 16 x Outputs Transition (6ES7288-2QT16-0AA0)

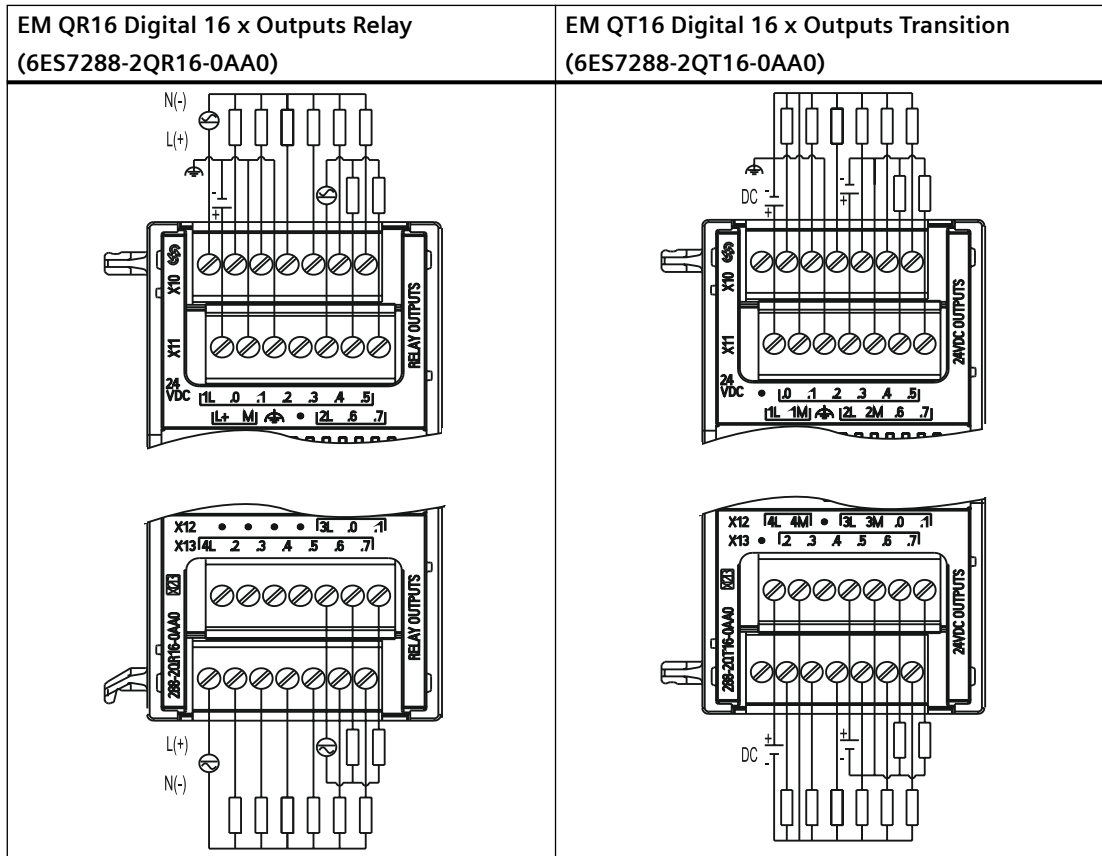


Table A-84 Connector pin locations for EM QR16 Digital 16 x Outputs Relay (6ES7288-2QR16-0AA0)

Pin	X10	X11	X12	X13
1	1L	L+ / 24 V DC	No connection	4L
2	DQ a.0	M / 24 V DC	No connection	DQ b.2
3	DQ a.1	Functional Earth	No connection	DQ b.3
4	DQ a.2	No connection	No connection	DQ b.4
5	DQ a.3	2L	3L	DQ b.5
6	DQ a.4	DQ a.6	DQ b.0	DQ b.6
7	DQ a.5	DQ a.7	DQ b.1	DQ b.7