

Siemens 6DD1681-0AE2

SB10 Interface Module

The SB10 passes 24 V DC digital signals between SIMATIC TDC or FM 458-1 DP components and plant terminals without electrical isolation.

01 Eight digital signal paths	02 24 V DC signal level	03 No galvanic isolation	04 Rail-mounted interface housing
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System position



Evidence boundary

Only verified exact-model facts and explicitly identified family context are included. Similar codes are not treated as substitutes.

Verification focus

- Siemens
- 6DD1681-0AE2
- Eight digital signal paths
- Rail-mounted interface housing

Engineering domains and architecture

Manufacturer	Siemens
Article number	6DD1681-0AE2
Designation	SB10
Signal paths	8 digital signals

Signal voltage	24 V DC
Electrical isolation	No
X1	10-pin ribbon connector: 8 signals plus 1P and 1M
X2	2 x 8-pole plant connector
X3 supply	+24 V at 1P; 0 V at 1M
Maximum X3 conductor	2.5 mm ²
Diagnostics	LED displays and X5 double test socket
Mounting	Snap-on rail enclosure

Interface architecture

Controller-side connector	Plant-side connector	Supply terminals	Test access
X1 ribbon connector	X2, two 8-pole terminal groups	X3: 1P and 1M	X5: 1P(+) and 1M(G)
Interface cables	Supply connector kit		
SC62 or SC66	SM11, 6DD1680-0BB0		

Use cases with controlled scope

Digital signal breakout Transfer eight controller-side digital signals to field terminals.	Commissioning visibility Use LED indication while checking program and field states.	Cabinet retrofit Maintain a documented SB10 terminal interface during controlled replacement.	FM 458-1 DP integration Connect application-module digital signals to plant wiring.
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INTEGRATION CHECKPOINTS

Identity Siemens 6DD1681-0AE2 is preserved in full.	Host system Rack, slot and surrounding hardware are verified.	Configuration Project, firmware and settings are recorded.	Acceptance Functional evidence is captured before release.
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System relationship

SIMATIC TDC / FM 458-1 DP	SC62 or SC66 cable	SB10 terminal interface	Plant digital signals
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Configuration control			
● X3 supply: +24 V at 1P; 0 V at 1M	● Maximum X3 conductor: 2.5 mm²	● Diagnostics: LED displays and X5 double test socket	● Mounting: Snap-on rail enclosure

Decision matrix

Question	Answer
How many digital signals does Siemens 6DD1681-0AE2 handle?	The SB10 provides eight 24 V DC digital signal paths.
Is there galvanic isolation in 6DD1681-0AE2?	No. The SIMATIC side and plant side are not electrically isolated.
Which cables connect the SB10 to SIMATIC TDC or FM 458-1 DP?	Siemens specifies SC62 or SC66 interface cables.
What is connected at X3?	X3 supplies 1P at +24 V and 1M at 0 V on the SIMATIC side.
What is the maximum conductor cross-section at X3?	The documented maximum is 2.5 mm ² .
What is available for diagnostics?	The module provides LED displays and an X5 double test socket for 1P and 1M.
Which connector kit is associated with the SB10 supply connection?	The SM11 parts kit, article 6DD1680-0BB0, is specified for the supply connection.

Eight release precautions

1 Isolate X3 supply and connected plant circuits before service.	2 Treat controller and plant sides as non-isolated electrical paths.	3 Verify 1P and 1M polarity before reconnecting the supply.	4 Use only the documented X1, X2, X3 and X5 assignments.
5 Confirm the SC62 or SC66 cable identity and orientation.	6 Keep the X3 conductor cross-section within 2.5 mm ² .	7 Check LED states against measured signals rather than using indication alone.	8 Test all eight channels and archive the as-left terminal map.

Product verification and support

Apter Power verification record

Model identity	Keep the complete Siemens model code and every suffix in purchasing, installation and acceptance records.
Verification boundary	Confirm the physical nameplate, installed position and revision-controlled project documents before field work.
Apter Power support	Use the contact details and Apter Power website links in this document for product and sourcing support.

Related Apter Power products	Exact product page
Siemens 6DD1681-0AG2	View Siemens 6DD1681-0AG2
Siemens 6ES5928-3UB21	View Siemens 6ES5928-3UB21
Siemens 6ES5734-1BD20	View Siemens 6ES5734-1BD20
Siemens 6DD1611-0AD0	View Siemens 6DD1611-0AD0



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Scan for the Apter Power contact page.

Model record Siemens 6DD1681-0AE2 SB10 Interface Module Verify the complete nameplate before installation.

Source and identity trace		
Exact identity: Siemens 6DD1681-0AE2	Siemens Interface Modules for SIMATIC TDC / FM 458-1DP, Product Information 04/2024, A5E53479401-AA, section 3.1	Siemens SIMATIC TDC Hardware System Manual, 10/2024, A5E01114864-AS, section 7.1