Siemens 6DD1681-0AG2

SB70 Interface Module

The SB70 adapts eight SIMATIC TDC or FM 458-1 DP digital outputs to plant signal levels through electrically isolating changeover relays.

01	02	03	04
Eight relay output channels	Electrical isolation by relays	Up to 120 V AC or DC	NO, NC and common terminals

System position

SIMATIC TDC / FM 458-1 DP outputs	SC62 interface cable	SB70 relay isolation	Plant control circuits

Evidence boundary

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

Verification focus

- Siemens
- 6DD1681-0AG2
- Eight relay output channels
- NO, NC and common terminals

02 / CAPABILITY MAP

Engineering domains and architecture

Manufacturer	Siemens
Article number	6DD1681-0AG2
Designation	SB70
Output channels	8 digital relay outputs

Maximum output voltage	120 V AC or DC
Isolation	Relay isolation between input and output
X1	8 digital-input pins plus 1P and 1M
X2	2 x 12-pole terminals
Contact terminals	8 NO, 8 NC and 8 common terminals
X3 supply	+24 V at 1P; 0 V at 1M
Diagnostics	LED displays and X5 test socket
Protection	PTC thermistor downstream of controller-side supply

Interface architecture

Controller-side connector X1 ribbon connector	**Plant-side terminals** X2, two 12-pole groups	**Contact arrangement** NO, NC and common for each channel	**Supply terminals** X3: 1P and 1M
Test access X5: 1P(+) and 1M(G)	**Interface cable** SC62		

Use cases with controlled scope

Voltage-level adaptation	Dry-contact switching	Electrical separation	Cabinet maintenance
Interface controller outputs with higher-voltage plant circuits.	Use changeover contacts for controlled output routing.	Isolate controller logic from connected output circuits through relays.	Replace an SB70 while preserving channel and contact mapping.

INTEGRATION CHECKPOINTS

Identity	Host system	Configuration	Acceptance
Siemens 6DD1681-0AG2 is preserved in full.	Rack, slot and surrounding hardware are verified.	Project, firmware and settings are recorded.	Functional evidence is captured before release.

System relationship

SIMATIC TDC / FM 458-1 DP outputs	SC62 interface cable	SB70 relay isolation	Plant control circuits

Configuration control

- Contact terminals: 8 NO, 8 NC and 8 common terminals
- X3 supply: +24 V at 1P; 0 V at 1M
- Diagnostics: LED displays and X5 test socket
- Protection: PTC thermistor downstream of controller-side supply

Decision matrix

Question	Answer
How many outputs are provided by Siemens 6DD1681-0AG2?	The SB70 provides eight relay-isolated digital output channels.
What output voltage can the SB70 switch?	The documented maximum is 120 V AC or DC.
Which contact forms are available at X2?	Each channel provides normally open, normally closed and common terminals.
How is electrical isolation achieved?	Relays isolate the controller-side inputs from the output contact circuits.
What supplies the SIMATIC side?	X3 receives +24 V at 1P and 0 V at 1M.
Which cable connects 6DD1681-0AG2 to the controller components?	Siemens specifies the SC62 interface cable.
What protects the controller-side supply path?	A PTC thermistor provides line protection downstream of the SIMATIC-side supply.

Eight release precautions

1 Isolate controller and plant-side voltages before touching X1, X2 or X3.	**2** Verify that every connected field circuit is within the 120 V AC/DC limit.	**3** Identify NO, NC and common terminals separately for each channel.	**4** Confirm the X3 24 V polarity before applying controller-side power.
5 Use the specified SC62 cable and check ribbon orientation.	**6** Do not bridge the relay isolation with unintended commons or test leads.	**7** Compare LED indication with measured contact operation on all channels.	**8** Document the final contact assignment and functional-test result.

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 6ES5928-3UB21	View Siemens 6ES5928-3UB21
Siemens 6ES5734-1BD20	View Siemens 6ES5734-1BD20
Siemens 6DD1611-0AD0	View Siemens 6DD1611-0AD0
Siemens 6DS1211-8AA	View Siemens 6DS1211-8AA

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Scan for the Apter Power contact page.

Model record Siemens 6DD1681-0AG2 SB70 Interface Module Verify the complete nameplate before installation.

Source and identity trace

- Exact identity: Siemens 6DD1681-0AG2
- Siemens Interface Modules for SIMATIC TDC / FM 458-1DP, Product Information 04/2024, A5E53479401-AA, section 3.4
- Siemens SIMADYN D Hardware, Edition 06/2002, SB70 technical data