

General Specifications

Digital I/O Modules (for FIO)



GS 32Q06K40-31E

■ GENERAL

This GS provides the hardware specifications of the digital I/O modules that can be installed in the Safety Node Unit and Safety Control Units.

■ STANDARD SPECIFICATIONS

● Input Module

Input modules accept contact signals from the field. SDV144 can be made dual-redundant.

Item	Specifications
Model	SDV144
Number of inputs	16-channel, module isolation (*3)
Input signal	No-voltage contact ON: 1 kΩ maximum OFF: 100 kΩ minimum
Input current	6 mA ± 20 % (External power supply, 24 V DC at 0 Ω input)
Contact rating	24 V DC +20 % / -10 % (*4), 10 mA or greater
External power supply	24 V DC +20 % / -10 % (*3) (*4) Current capacity: 200 mA
Instantaneous maximum permissible input voltage	30.0 V DC
Input response time	40 ms maximum
Withstand voltage (*1) (*2)	2 kV AC between input signal and system for 1 minute, 16-input line collectively connected (*5)
Current consumption	290 mA maximum (5 V DC) 140 mA maximum (24 V DC)
Weight	Approx. 0.36 kg (For pressure clamp terminal block or MIL cable) Approx. 0.41 kg (With signal cable interface adapter)
External connection	Pressure clamp terminal MIL cable Dedicated signal cable (AKB331)

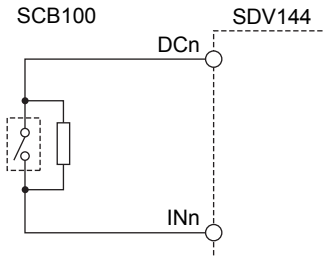
- *1: These voltages show the case using the field power supply floating. When the field power supply is grounded, the system (functional) ground is connected to the field ground, which is not isolated. For the higher noise immunity, floating the field power supply is recommended.
- *2: When the withstanding voltage of the field power supply between the secondary side and the ground is lower than the value shown in the table above, these voltages are adopted as the withstanding voltage of the field power supply.
- *3: Number of input channels which a user can use and external power supply are restricted in case of SDV144-S□C. Refer to "ProSafe-RS Outline of I/O Modules (for FIO)" (GS 32P06K60-01EN).
- *4: The contact rating and the external power supply of SDV144 style code S1, S2 and S3 are 24 V DC ± 5 %.
- *5: When connecting SDV144 and SED4D terminal board using the dedicated signal cable, the withstand voltage is 500 V AC (between input signal lines and system). If MIL connector cables are used, the withstand voltage depends on their cable's electrical specifications.

If SDV144 field wiring diagnostic functions are used, the following diagnostic elements should be installed for individual channels in the vicinity of the field equipment:

- SCB100 (for defective open circuit detection while accepting off signals) (*1)
- SCB110 (for defective short-circuit detection while accepting on signals) (*2)

*1: Input signals are normally off while in normal operation.
 *2: Input signals are normally on while in normal operation.

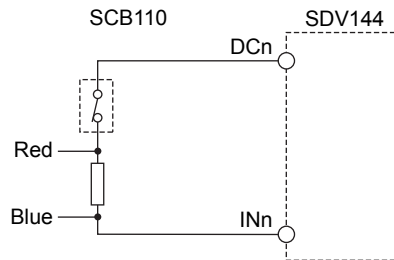
When the input signals are normally off while in normal operation, connect the SCB100 in parallel with the contact output of the field equipment as given below.



: Field equipment switch

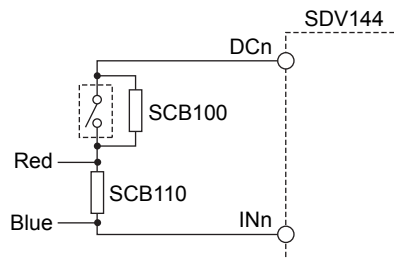
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When the input signals are normally on while in normal operation, connect the SCB110 in series with the contact output of the field equipment (take care about the polarity taking note of the polarity).



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When checking for both defective short and open circuits, connect the SCB100 and SCB110 in parallel and series with the contact outputs of the field equipment respectively, as given below.



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