

◆ 16-channel digital input/24VDC/PNP&NPN (DF58-M-16DI-P/N)

- The digital input module can receive control signals from on-site devices (such as sensors).
- 16 channel digital input, PNP&NPN valid. Common end conversion换.
- Each input module is equipped with an anti-interference filter.
- Each input module is equipped with LED indicator lights.
- Isolation between the on-site layer and the system layer is achieved through optocouplers.
- Protection level IP20.



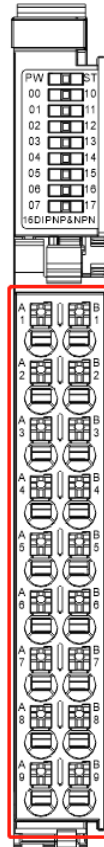
1. Specification parameters

Technical Information	
model	DF58-M-16DI-P/N
Product Description	Digital input module, 16 inputs, NPN+PNP, 24VDC
Signal type	NPN&PNP
ON signal voltage	> 15V DC
OFF signal voltage	< 5V DC
Hardware response time	100us/100us
Number of channels	sixteen
data size	2 Byte
line type	1-wire system, according to standard IEC 61131-2
Reverse circuit protection	support
Isolation method	Optoelectronic isolation from the on-site layer
Error diagnosis	support
Signal (0) Input current of each channel (typical)	0.678mA
Signal (1) Input current of each channel (typical)	4.07mA
Signal (1) Minimum input current for each channel	2.46mA
Signal (1) Maximum input current of each channel	4.7mA
Filtering time	No filtering, 0.25ms, 0.5ms, 1ms (factory setting), 2ms, 4ms, 8ms, 16ms, 32ms, 2 sets of filtering parameters can be set, one set for every 8 channels, and the same filtering parameter can be shared within the group
Input impedance	5.6k Ω
Input action display	When the input is in the drive state, the input indicator light is on (LED is controlled by the microcontroller IO software)
Input Derating	Derate by 75% when operating at 55 °C (with no more than 12 input points ON), or by 10 °C when the input points are ON
IO mapping	Supports three IO mapping methods: bit access, byte access, and word access
Power parameters	
working voltage	24V DC +20 %/ -15 %
System feed current	<15mA
Wiring parameters	
Connection technology: input/output	PUSH-IN type terminal blocks

Connection type (1)	Input/Output
Crimping area of wire	0.2~1.5mm ² /26~16AWG
Strip length	8-10mm ²
Installation method	DIN-35 type guide rail
Material parameters	
colour	Light gray
Shell material	PC plastic, PA66
Consistency flag	CE
Environmental requirements	
Permissible ambient temperature (during operation)	-25-60 °C
Permissible ambient temperature (storage)	-40-85 °C
Protection type	IP20
Pollution level	2. Comply with IEC 61131-2 standard
Working altitude	Temperature without derating: 0-2000m
Installation position	arbitrarily
Relative humidity (non condensing)	5-95% RH
Anti vibration	4g, in accordance with IEC 60068-2-6 standard
Impact resistance	15g, in accordance with IEC 60068-2-27 standard
EMC - Immunity	Complies with EN 61000-6-2 standard
EMC - Radiated interference	Complies with EN 61000-6-3 standard
Corrosion resistance	Complies with IEC 60068-2-42 and IEC 60068-2-43 standards
Permissible H ₂ S pollutant concentration at 75% relative humidity	10ppm
Permissible SO ₂ pollutant concentration at 75% relative humidity	25ppm

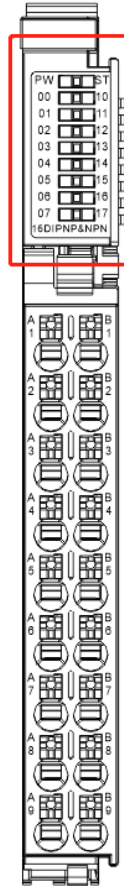
2. Hardware interface

● 2.1 Terminal Definition



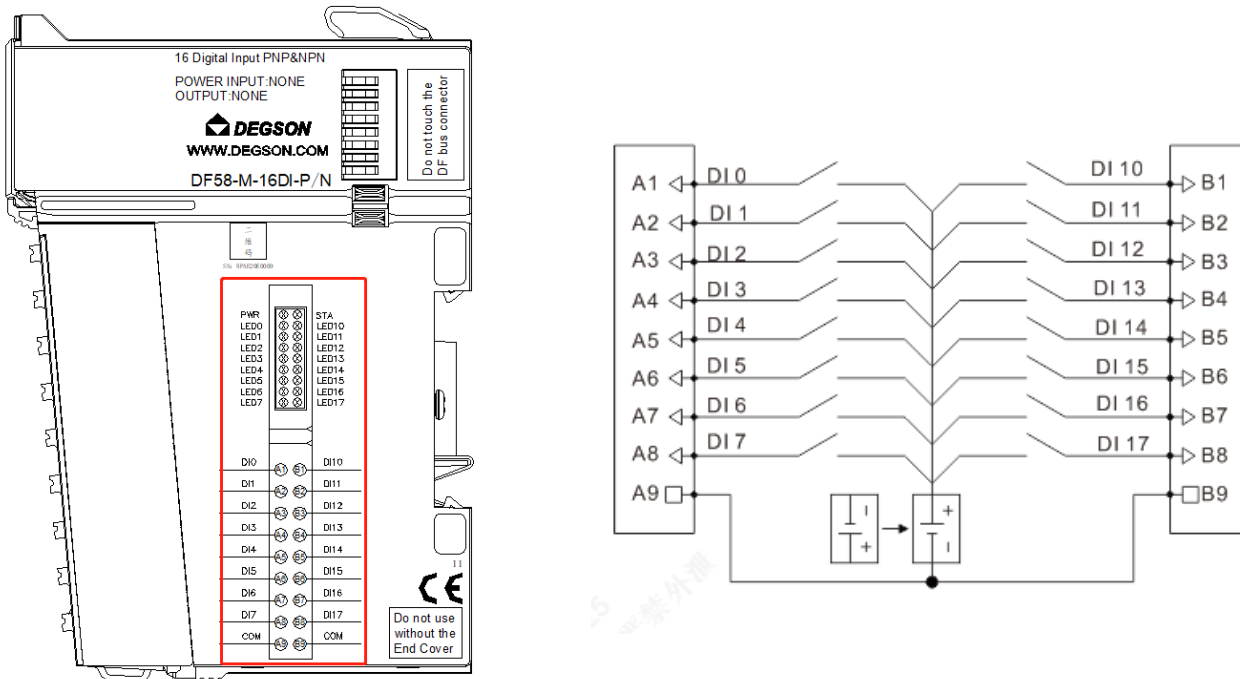
serial number	signal	note	serial number	signal	note
A1	DI 0	Input signal	B1	DI 10	Input signal
A2	DI 1		B2	DI 11	
A3	DI 2		B3	DI 12	
A4	DI 3		B4	DI 13	
A5	DI 4		B5	DI 14	
A6	DI 5		B6	DI 15	
A7	DI 6		B7	DI 16	
A8	DI 7		B8	DI 17	
A9	COM	COM	B9	COM	COM

● 2.2 Definition of LED indicator lights



Pilot lamp	Note
00 ~ 07, 10 ~ 17	On: The input signal is normal
	Off: Abnormal input signal
PW	On: Internal bus power supply is normal
	Off: Abnormal internal bus power supply
ST	Power on stage: green on: module initialization abnormal, green off: module initialization normal
	Operation phase: Green flashing: The internal bus of the module is working normally, green off: The internal bus of the module is working abnormally

● 2.3 Wiring diagram



Note: COM is a public terminal, with external 24V for NPN and external 0V for PNP.

3. Process Data Definition

Module Process Data Definition

data in								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	DI Channel 7	DI Channel 6	DI Channel 5	DI Channel 4	DI Channel 3	DI Channel 2	DI Channel 1	DI Channel 0
Byte 1	DI Channel 17	DI Channel 16	DI Channel 15	DI Channel 14	DI Channel 13	DI Channel 12	DI Channel 11	DI Channel 10

Data Description :

DI Channel (00-07,10-17): When the corresponding channel input signal is valid, this position is 1, and if it is invalid, it is 0.

1: Input signal valid 0: Input signal invalid

4. Mechanical Installation

● 4.1 Installation dimensions

The installation dimension information is shown in the following figure, in millimeters:

