DF44 / DF57

smar
FIRST IN FIELDBUS

MAY / 02

DF44/DF57

VERSION 2.0

INSTALLATION MANUAL

ANALOG INPUTS MODULE
VOLTAGE / CURRENT

DF44 - 57ME

smar

web: www.smar.com

Specifications and information are subject to change without notice.
For the latest updates, please visit the SMAR website above.

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AVOIDING ELECTROSTATIC DISCHARGES

ATTENTION

Electrostatic discharges may damage semiconductors electronics components found in the boards. Generally, they may occur when these components or connectors pins in the modules and racks are touch, without using any appropriated equipment to prevent the electrostatic discharges.

It is extremely recommendable the following procedures:

- Before handling the modules and racks, discharge the electrostatic charge found in the body through appropriated equipments or even touching grounded equipments;
- Avoid touching in the electronics components or in the connectors pins in the racks and modules.

DF44/DF57 - ANALOG INPUTS MODULE VOLTAGE / CURRENT

DF44 (1 Group of 8 Voltage/Current Analog Inputs with Internal Shunt Resistors)

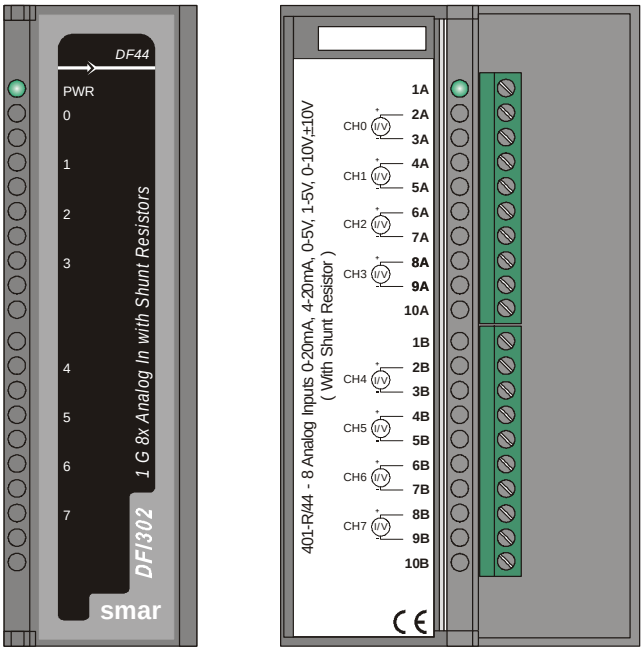
DF57 (1 Group of 8 Voltage/Current Differential Analog Inputs with Internal Shunt Resistors)

Description

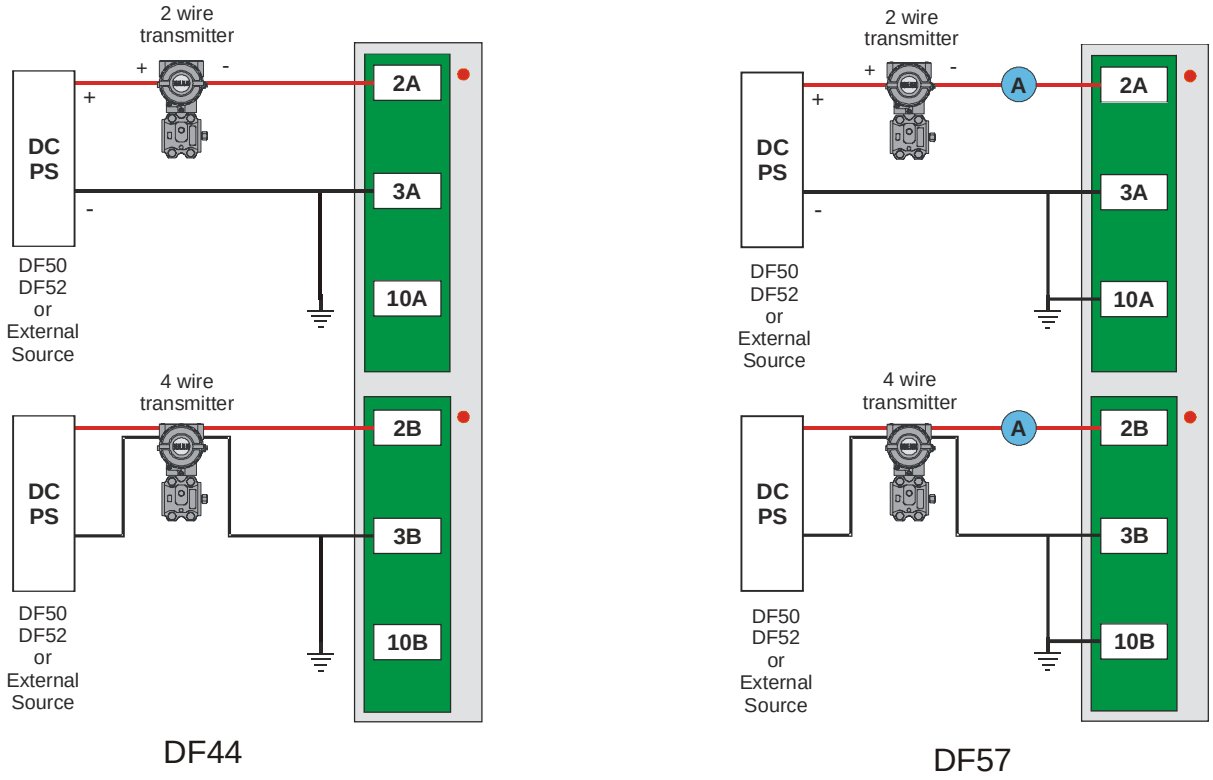
These modules read 8 Voltage or 8 Current analog signals. Inputs are isolated from IMB. Only the module DF57 has differential inputs.

DF44: The inputs are individually configured to read:
- 0-5 V, 1-5 V, 0-10 V, ± 10 V, with the internal shunt resistor in the position “V”.
- 0-20 mA, 4-20 mA, with the internal shunt resistor in the position “I”.

DF57: The inputs are differential and are individually configured to read:
- 0-5 V, 1-5 V, 0-10 V, ± 10 V, with the internal shunt resistor in the position “V”.
- 0-20 mA, 4-20 mA, with the internal shunt resistor in the position “I”.



Notes
In order to attend EMC standards, use shielded cables in signals inputs (ground the shield in the panel only in one side of the cable).
The scale for Analog Input and Output Modules is done using XD_SCALE parameter in AI and AO blocks, respectively. When using MAI or MAO, it is assumed a default range, 4-20mA or 1-5V without possibility to change. For MAI and MAO, input and output parameters are available in percentage of default range.



Observation: In the picture above, the Ammeter it is not mandatory.

Technical Specifications

Architecture	
Number of Inputs	8
Number of Groups	1
Number of Points per Group	8

Isolation	
Channel To Bus	Isolation up to 1500 Vrms

Internal Power	
Provided by the IMB bus	5 Vdc @ 340 mA Maximum
Total Maximum Dissipation	1.7 W
Indicator of source	Green LED

Inputs	
Linear Measuring Range	DF44/DF57: 0-20 mA, 4-20 mA, 0-5 V, 1-5 V, 0-10 V, ± 10 V
Typical Input Impedance	DF44/DF57: 1 MΩ for voltage input 250 Ω for current input

A/D Conversion	
Conversion time	20 ms/channel
Sample Rate	5 Hz
Resolution	16 bits

Accuracy at 77 °F (25° C)	
Range: 0-5 V, 1-5 V, 0-10 V	± 0.1% of span (Linearity/Interference)
Range: 0-20 mA, 4-20 mA	± 0.12% of span (Linearity/Interference)
Range: ±10 V	± 0.2% of span (Linearity/Interference)

Ambient Temperature Effect	
Range: 0-20 mA, 4-20 mA, 0-5V, 1-5 V, 0-10 V	± 0.2% of span /77 °F (25 °C)
Range: ± 10V	± 0.1% of span /77 F (25 °C)

Dimensions and Weight	
Dimensions (W x D x H)	39.9 x 137.0 x 141.5 mm; (1.57 x 5.39 x 5.57 in.)
Weight	0.210 kg

Cables	
One wire	14 AWG (2 mm^2)
Two wires	20 AWG (0.5 mm^2)