

DF46

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FIRST IN FIELDBUS

FEB / 01

DF46

VERSION 2.0

INSTALLATION MANUAL

ANALOG OUTPUTS MODULE VOLTAGE / CURRENT



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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:

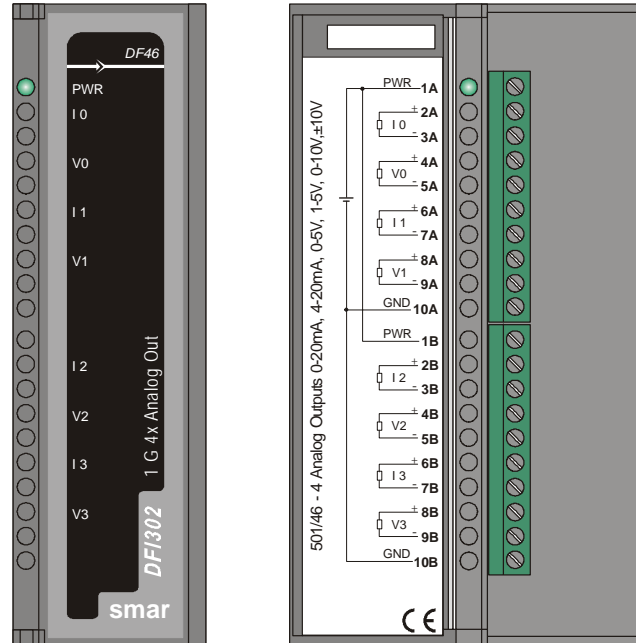
- Before handling the modules and racks, discharge the electrostatic charge found in the body through appropriated equipments or even touching grounded equipments;
- Avoid touching in the electronics components or in the connectors pins in the racks and modules.

DF46 - ANALOG OUTPUTS MODULE VOLTAGE / CURRENT

DF46 (1 Group of 4 Voltage/Current Analog Outputs)

Description

This module provides 4 pairs of analog outputs. Each pair is composed of one Current output and one Voltage output. When one output is selected, the corresponding pair is selected simultaneously. The current outputs can be configured individually on ranges 0-20 mA or 4-20 mA. For voltage outputs the range is 0-5V, 1-5 V, ± 5 V, 0-10 V, 2-10 V or ± 10 V.



DipSwitch's Configuration

When using Voltage Mode, make sure to configure the Group of Ranges via DipSwitches located UP and Down inside the Box.

DipSwitch 1 - UP Side: Configure the Group of Ranges of Channel 0 (I0/V0)

DipSwitch 2 - UP Side: Configure the Group of Ranges of Channel 1 (I1/V1)

DipSwitch 1 - DOWN Side: Configure the Group of Ranges of Channel 2 (I2/V2)

DipSwitch 2 - DOWN Side: Configure the Group of Ranges of Channel 3 (I3/V3)

See under Technical Specifications (output range) the Group of Ranges.

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) and cables less then 30 meters for power source inputs.

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.

Technical Specifications

<i>Architecture</i>	
Number of Outputs	4
Number of Groups	1
Number of Points per Group	4

<i>Isolation</i>	
Channel To Bus	Optical Isolation up to 3700 Vrms
Channel To External Supply	1500 Vac

<i>Internal Power</i>	
Provided by the IMB bus	5 Vdc @ 20 mA Maximum
Total Maximum Dissipation	0.1 W

<i>External Power</i>	
In Rush Current Consumption	2.3 A, 10ms @ 24 Vdc Maximum
Voltage Source	20 – 30 Vdc
Maximum Current	180 mA
Indicator of Source	Green LED

<i>Outputs</i>	
Outputs Type	Single ended (1 ground)
Load Impedance	5 V: 2 k Ω minimum; 10 V: 5 k Ω minimum 20 mA: 750 Ω maximum

<i>Outputs Range</i>	<i>Range 1</i>	<i>Range 2</i>	<i>Range 3</i>
Voltage Output Dip Switch OFF	1 V to 5 V	0 V to 5 V	-5 V to 5 V
Voltage Output Dip Switch ON	2 V to 10 V	0 V to 10 V	-10 V to 10 V
Current Output	4 mA to 20 mA	0 mA to 20 mA	0 mA to 20 mA

<i>A/D Conversion</i>	
Conversion Speed	8 ms/channel
Resolution	12 bits
Accuracy at 77 °F (25 °C)	± 0.5% of span

<i>Dimensions and Weight</i>	
Dimensions (W x D x H)	39.9 x 137.0 x 141.5mm; (1.57 x 5.39 x 5.57 in)
Weight	0.330 kg

<i>Cables</i>	
One wire	14 AWG (2 mm ²)
Two wires	20 AWG (0.5 mm ²)

