

Pulse Inputs Module Low / High Frequency - DC



smar

web: www.smar.com

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

BRAZIL

Smar Equipamentos Ind. Ltda.
Rua Dr. Antonio Furlan Jr., 1028
Sertãozinho SP 14170-480
Tel.: +55 16 3946-3510
Fax: +55 16 3946-3554
e-mail: insales@smar.com.br

GERMANY

Smar GmbH
Rheingastrasse 9
55545 Bad Kreuznach
Germany
Tel: + 49 671-794680
Fax: + 49 671-7946829
e-mail: infoservice@smar.de

USA

Smar International Corporation
6001 Stonington Street, Suite 100
Houston, TX 77040
Tel.: +1 713 849-2021
Fax: +1 713 849-2022
e-mail: sales@smar.com

CHINA

Smar China Corp.
3 Baishiqiao Road, Suite 30233
Beijing 100873, P.R.C.
Tel.: +86 10 6849-8643
Fax: +86-10-6894-0898
e-mail: info@smar.com.cn

MEXICO

Smar Mexico
Cerro de las Campanas #3 desp 119
Col. San Andrés Atenco
Tlalnepantla Edo. Del Méx - C.P. 54040
Tel.: +53 78 46 00 al 02
Fax: +53 78 46 03
e-mail: ventas@smar.com

FRANCE

Smar France S. A. R. L.
42, rue du Pavé des Gardes
F-92370 Chaville
Tel.: +33 1 41 15-0220
Fax: +33 1 41 15-0219
e-mail: smar.am@wanadoo.fr

SINGAPORE

Smar Singapore Pte. Ltd.
315 Outram Road
#06-07, Tan Boon Liat Building
Singapore 169074
Tel.: +65 6324-0182
Fax: +65 6324-0183
e-mail: info@smar.com.sg

Smar Research Corporation

4250 Veterans Memorial Hwy. Suite 156
Holbrook, NY 11741
Tel: +1-631-737-3111
Fax: +1-631-737-3892
e-mail: sales@smarresearch.com

NETHERLANDS

Smar Nederland
De Oude Wereld 116
2408TM Alphen aan den Rijn
Tel: +31 172 494 922
Fax: +31 172 479 888
e-mail: info@smarnederland.nl

UNITED KINGDOM

Smar UK Ltd
3, Overhill Road - Cirencester
Gloucestershire -
GL7 2LG
Tel: +44 (0)797 0094138
Fax: +44 (0)797 4747502
e-mail: info@smarUK.co.uk

AVOIDING ELECTROSTATIC DISCHARGES



ATTENTION

Electrostatic discharges may damage semiconductor electronics components found in the boards. Generally, they may occur when these components or connectors pins in the modules and racks are touched, 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.

DF41/42 - PULSE INPUTS MODULE LOW / HIGH FREQUENCY - DC

DF41 (2 Groups of 8 Low Frequency (0 - 100Hz) 24VDC Pulse Inputs)

DF42 (2 Groups of 8 High Frequency (0 - 10KHz) 24VDC Pulse Inputs)

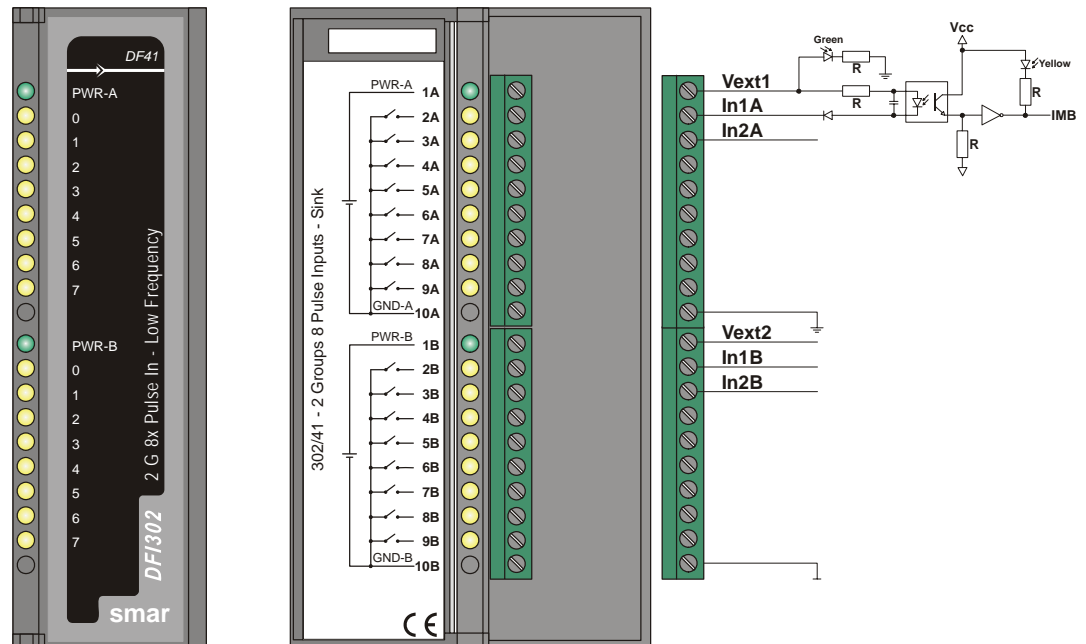
Description

This Module has 2 groups of 8 inputs to count pulses and accumulate them till the Processor Module read them. Right after the Processor reading, every individual counter will be cleared and the hardware is prepared for not losing any input pulse in this acquisition process.

An associated PULSE Function Block was specifically designed to take advantage of this Module in DFI302 system. See details about this block in Function Blocks documentation.

DF41 is dedicated for counting frequencies of up to 100 Hz and can be driven by a mechanical contact of a relay or reed-switch. A single pole internal filter has the cutting frequency in approximately 200 Hz.

DF42 is intended to count from higher frequency sources that do not generate bouncing on level switching. It can read frequencies ranging from 0 to 10 kHz. An internal single pole filter cuts around 20 kHz to eliminate high frequency noise.



NOTE

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 than 30 meters for power source inputs.

IMPORTANT

These modules have 12-bit counters to accumulate up to 4096 pulses, for each one of 16 channels, before an overflow occurs. Therefore, considering the maximum operation frequency, they have the following minimum overflow times:

- DF41 : 4096 pulses / 10000 Hz = 0,4096 s ;
- DF42 : 4096 pulses / 100 Hz = 40,96 s ;

The system macro-cycle must be lower than the pulse counter modules overflow times.

Technical Specifications

ARCHITECTURE	
Number of Inputs	16
Number of Groups	2
Number of Points per Group	8

ISOLATION	
Groups are individually isolated. Optical Isolation up to	5000 Vac

EXTERNAL POWER	
Voltage Source	20-30 Vdc
Typical Consumption per group	65 mA @ 24 Vdc
Indicator of source	Green LED

INTERNAL POWER		
	DF41	DF42
Provided by the IMB bus (5Vdc)	90 mA	130 mA
Maximum Dissipation	0.425 W	0.650 W
Indicator of source	None	None

INPUTS	
ON State Level (True Logic)	0–5 Vdc; <200 Ω (DF41/DF42)
OFF State Level (False Logic)	20–30 Vdc; >10 K Ω (DF41/DF42)
Typical Impedance	3.9 K Ω
Status Display	Yellow LED
Typical Input Current per Point	7.5 mA
Maximum Input Frequency	DF41: 0–100 Hz DF42: 0–10 KHz

DIMENSION 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	0.342 kg

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

