

DI-16 für imc ARGUSfit

16-channel digital input module



The DI-16, belonging to the imc ARGUSfit-series, enables the capture of up to 16 digital input signals at a maximum sampling rate of 100 kHz. The capture of digital signals can be performed either bitwise or as data words for all inputs.

Highlights

- TTL and 24 V level supported (configurable)
- Voltage mode (select level)
- Switch mode (directly connect external switch / contact)

Robust

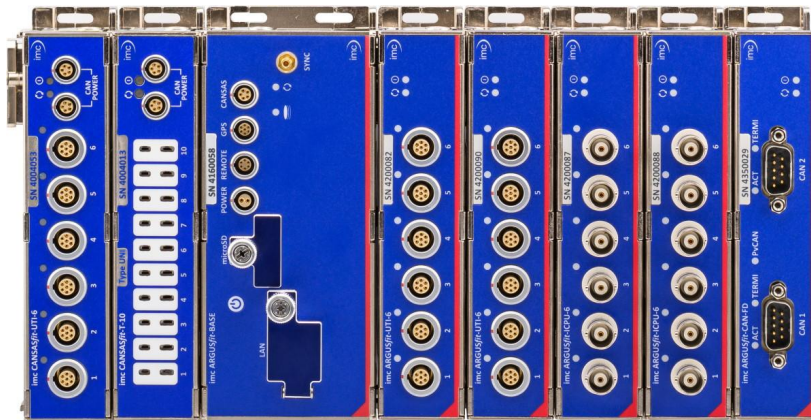
- Galvanic isolation for 8 groups of 2 Bits
- High impedance input (2 MΩ) - presenting not load to the source

Typical applications

- Monitoring with digital status signal acquisition
- Typical signals: Enable, Error, Mode etc.
- Industrial applications with 24 V logic level signal
- Automotive with signals (8 V threshold with 24 V mode selected)
- Monitoring and acquisition of switch device status



imc ARGUSfit: Flexible modular platform for fast measurement systems

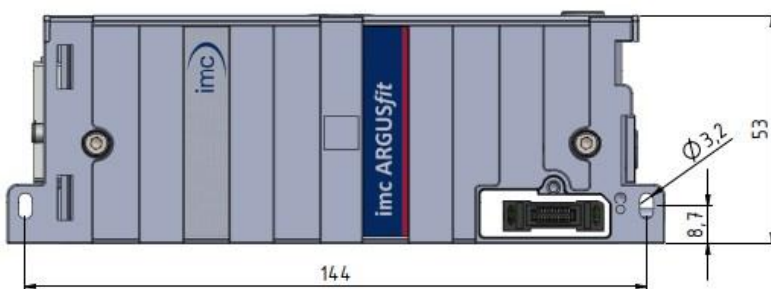


Based on an imc ARGUSfit base unit, imc ARGUSfit measurement amplifier and interface modules can be combined to form complete systems by means of a robust click mechanism, which can even integrate imc CANSASfit modules. The click connectors provide the electrical connection to the power supply and system bus.

For expansion to decentralized distributed topologies, the fast internal ARGFT system bus can be converted to fiber optic cables by means of a clickable fiber converter module.

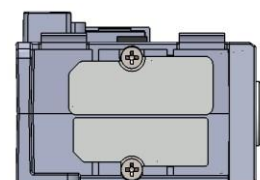
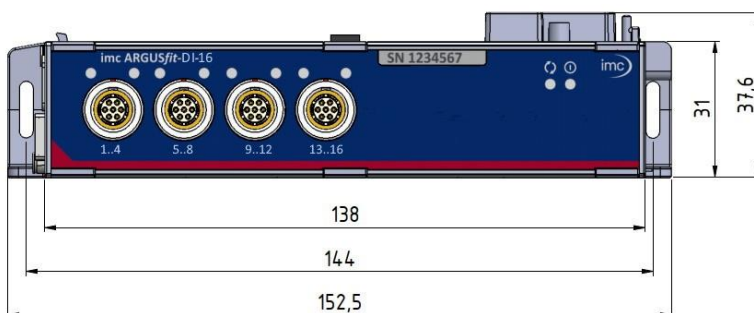
The entire system can be controlled via a common Ethernet connection (LAN/WLAN) with a PC (imc STUDIO software) and can be networked and operated synchronously and uniformly with all other imc data acquisition instrument series. Furthermore, it can also be operated autonomously and stand-alone without PC with data storage on microSD.

Dimensions



imc ARGUSfit DI-16

Module shown in standard operating position (terminal connections upwards)



left module panel with parking position for the covers of the module connectors

Overview of the available variants

Order Code	Properties	article no.
ARGFT/DI-16	digital input module (-40°C... +85°C)	11400210
ARGFT/DI-16-EC	variant for extended condensation	114102xx

Included accessories

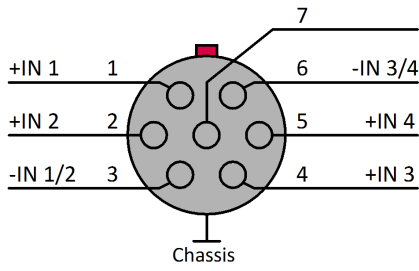
Documents
Getting started with imc ARGUSfit (one copy per delivery)
Device certificate
Miscellaneous
4x ACC/CAP-LEMO.1B, 13500233 (protective cover for LEMO.1B sockets)

Optional accessories

Connector: signals		
ACC/FGG.1B.307-5.3-6.2	plug for the signal connection (FGG series, IP50)	13500096
ACC/FEG.1B.307-3.1-4.2	plug for the signal connection (FEG series, IP54)	13500262
ACC/FGG.1B.307-TERMINAL	screw terminal plug LEMO.1B, 7 pin (FGG series) LEMO plug with integrated screw terminal adaptor (7 pin + shield)	13500418
Fiber-Converter Set		
ARGFT/FIBER-CONVERTER-SET	Media converter for the ARGUS system bus Includes: 2 converter modules, 2x SFP+ transceiver, 5 m fiber optic cable, AC/DC power adaptor and a power plug	11400225
Mounting accessories		
CANFT/BRACKET-DIN	Mounting on DIN-Rail (top hat rail) for imc ARGUSfit and imc CANSASfit	12100029
CANFT/BRACKET-MAG	Mounting with magnet system for imc ARGUSfit and imc CANSASfit	12100030
Documents		
SERV/CAL-PROT	Calibration protocol per amplifier imc manufacturer calibration certificate with measurement values and list of calibration equipment used (pdf).	150000566
SERV/CAL-PROT-PAPER	Calibration protocol per amplifier (paper print) imc manufacturer calibration certificate with measurement values and list of calibration equipment used with signature and seal.	150000578
Device certificates and calibration protocols: Detailed information on certificates supplied, the specific contents, underlying standards (e.g. ISO 9001 / ISO 17025) and available media (pdf etc.) can be found on our website, or you can contact us directly.		



Technical Specs - ARGFT/DI-16

Inputs, measurement modes		
Parameter	Value	Remarks
Inputs	16	8 isolated groups of 2-bit channel
Measurement modes	voltage mode switch mode	configurable for each group separately
Interconnections Measurement input LEMO pinout	compatible connector type 7-pin LEMO.1B Measurement input: 	recommended connector: LEMO.FEG.1B.307
Module connector	Click-connection (covering caps)	for the supply and system bus of directly connected modules without further cables, see data sheet of ARGFT base unit

Sampling rate		
Parameter	Value	Remarks
Sampling rate	≤100 kHz	for all 16 inputs of the module

Differential input		
Parameter	Value	Remarks
Input configuration	differential	the common reference of a group is the respective -IN terminal
Isolation strength	±60 V	to system ground (housing) and between groups (tested at: 200 V)
Input voltage level	TTL, 24 V	configurable for each group separately
Overvoltage protection	±60 V	long-term, test voltage ±100 V (60 s) in voltage mode, only diff. voltages >-22 V are permitted in switch mode
Input impedance	2 MΩ	
Switch mode no-load voltage short-circuit current	max. 4 V max. 800 μA	measured between +IN and -IN of a channel
Thresholds TTL (5 V) 24 V switch mode	1.4 V (±400 mV) 8.1 V (±800 mV) 18 kΩ (±10 kΩ)	0 < 1 V, 1 > 1.8 V 0 < 7.3 V, 1 > 8.9 V low-impedance contact at input = High



Operating conditions		
Parameter	Value	Remarks
Operating environment	dry, non corrosive environment within specified operating temperature range	
Ingress protection class	IP50	with correctly mounted covers over both module connectors
Pollution degree	2	
Operating temperature range	-40 °C to +85 °C	standard version: without condensation "-EC" version: temporary condensation allowed
Shock- and vibration resistance	IEC 60068-2-27, IEC 61373 IEC 60068-2-64 category 1, class A and B MIL-STD-810 Rail Cargo Vibration Exposure U.S. Highway Truck Vibration Exposure	
Extended shock- and vibration resistance	upon request	specific tests or certification upon request
Dimensions (L x W x H)	approx. 153 x 40 x 54 mm	including mounting flanges and click mechanism, see mechanical drawings 2

Power supply of the module			
Parameter	Value typ.	min. / max.	Remarks
Input supply voltage		7 V to 50 V DC 9.5 V to 50 V DC	operating upon power up power supply via base unit, fiber converter or UPS module
Power consumption	1.4 W	2.5 W	
Isolation	±60 V		to case (CHASSIS), isolation impedance ≥1 MΩ

Pass through power limits for directly connected modules (click-mechanism)		
Parameter	Value	Remarks
Max. current	5 A	at 85 °C current rating of click connector to ARGFT modules
	60 W at 12 V DC 120 W at 24 V DC	typ. DC vehicle voltage AC/DC power adaptor and installations

LEDs	Value	Remarks
Power-LED green 	power active	
Status-LED green  blue magenta yellow red	active measurement init, etc. firmware update prepare configuration error	global Modul-Status



LEDs	Value	Remarks
Channel Status-LED		status of each channel
off	Voltage mode: both bits of the group have an input signal level that is lower than the selected switching threshold ("low") Switch mode: both bits of the group have a closed contact ("high")	
green	Voltage mode: at least one bit of the group have an input signal level that is higher than the selected switching threshold ("high") Switch mode: at least one bit of the group have an open input ("low")	

