imc CANSAS-DAC8

8-channel analog output module for voltage and current signals

This imc CANSAS-DAC8 module outputs the user's choice of current or voltage signals on 8 analog outputs. The desired output signals can either be extracted directly from a CAN message or derived from received CAN-messages or specified functions (e.g. squarewave, sawtooth etc.) by means of the module's computational capacities.

General characteristics of imc CANSAS modules

Operating conditions:
- extended temperature range, including humidity / condensation
- mechanically robust

CAN interface:
- configurable baud rate up to 1 MBit/s
- galvanically isolated

Synchronization:
- simultaneous sampling of all module's channels
- synchronizing of multiple imc CANSAS modules and with global CAN logger both via dedicated SYNC signal or based on CAN messages

Power supply and operation:
- galvanically isolated
- wide input voltage range
- supply via CAN cable possible
- automatic self start upon power-up

Onboard signal processing:
- "virtual channels"
- integrated signal processor (DSP) for online processing: data reduction, filtering, scaling, statistics etc.
- programmable multi function status LED (front panel)

Housing and Connectors:
- variety of different housings and connections

Software

Configuration:
- with imc CANSAS Software (included)
- Supports the CANopen® protocol according "*CiA® DS 301 V4.0.2*" and "*CiA® DS 404V1.2*"; 4 TPDO (Transmit Process Data Objects) in INT16, INT32, and FLOAT. The supported capabilities, more standards and the settings which can be edited via CANopen® are described in the "CANSAS CANopen®" documentation.
- Capable of automatic start upon power up with preloaded configuration; also available pre-configured ex-factory.
- The module's current configuration can be extracted and exported by the software; this makes it possible to transfer configurations made by others by means of just the module.
- The "-L" and "-K" models, when installed and operated in the 19" subrack backplane, can automatically identify their slot position within the rack and pass this information on to automation software.
- The module can send a CAN-Bus message at intervals ("heartbeat“). This periodic message can serve the purpose of monitoring whether the correct module is being used with the correct configuration.

Measurement operation:

- simple measurement operation with imc CANSAS*pro*
  using CAN interface such as imc CAN-USB or any other 3rd party PC CAN interface
- Data logger operation
  Software: imc STUDIO or imc DEVICES
  Hardware: imc measurement systems with CAN interface such as imc BUSDAQ, imc CRONOS series (CRC, CRFX, CRSL, CRPL), imc C-SERIES, imc SPARTAN
- any 3.rd party CAN data logger systems

Overview of available variants

Order code	article no.	housing	signal connector	extra
CAN/DAC8	1050016	aluminum profile	DSUB-15	
CAN/L-DAC8	1050055	aluminum profile	DSUB-15	
CAN/L-DAC8-V	1050142	aluminum profile	ITT Veam	
CAN/K-DAC8	1050294	cassette	DSUB-15	
CAN/K-DAC8-BNC	1050075	cassette	BNC	
CAN/K-DAC8-V		cassette	ITT Veam	
CAN/SL-DAC8-D	1150017	sealed IP65 (SL)	DSUB-15	

Housing types

	CANSAS	CANSAS-L	CANSAS-K	CANSAS-SL
General				
Housing type	Alu profile	Alu profile	cassette	sealed
Size (W x H x D, mm)	W x 111 x 90	W x 111 x 145	W x 128 x 145	W x 113 x 152
Weight (typical: UNI8)	800g	800g	450 g	900 g
Stackable	●	●		●
Subrack mounting		●	●	
Subrack slot recognition		●	●	
DIN-rail mounting kit	●	●		
Versatile mounting kit	●	●		●
Operating conditions				
Extended temp. range, incl. condensation	●	●	●	●
Shock and vibration rating	50g pk (5 ms)	50g pk (5 ms)	50g pk (5 ms)	MIL STD810F
IP rating	IP40	IP40	IP20	IP65
Connectivity				
CAN connector (in / out)	2 x DSUB-9	2 x DSUB-9	2 x DSUB-9	2 x DSUB-9 or 2 x LEMO
Power input connector	PHOENIX	PHOENIX	PHOENIX	LEMO.1B
Control LED (front)	●	●	●	●

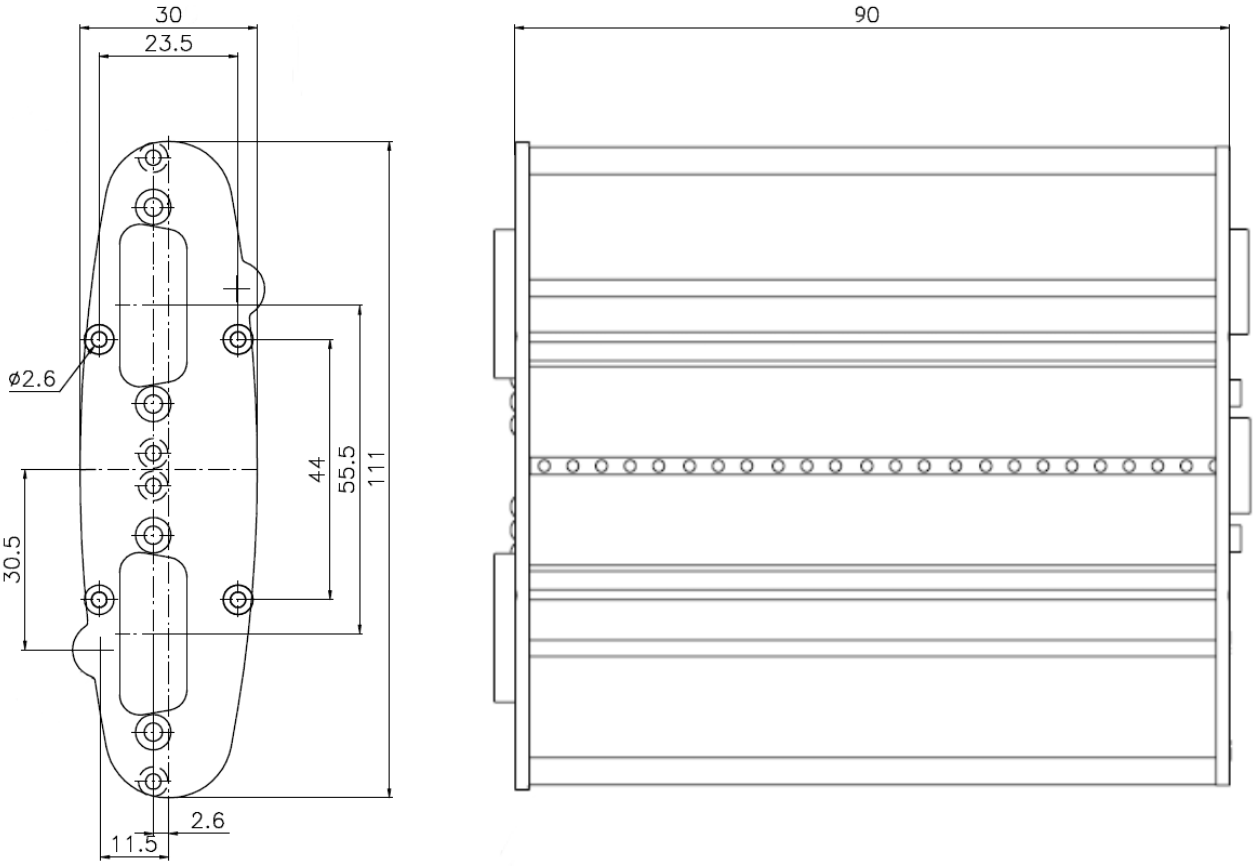
Operating conditions for Alu profile and cassette

- Operating temperature: -20°C to 85°C condensation allowed
- Shock resistance 50 g pk over 5 ms

Operating conditions for sealed IP65 (SL) profile

- Operating temperature: -20°C to 85°C condensation allowed
- Shock resistance: MIL STD810F
- Ingress Protection rating: IP65

Dimensions CAN/DAC8 (1050016)



Included accessories

- Calibration certificate with test equipment verification as per ISO 9001 (manufacturer's calibration certificate)
- Instruction manual (Getting started)
- Suitable power input plug:
  PHOENIX plugable terminal block (aluminum profile housing)
  LEMO.1B plug (SL housing)

Optional accessories

DSUB-15 connector (measurement inputs)		
ACC/DSUBM-DAC4	DSUB-15 plug with screw terminals for each 4 analog outputs	1350177

Mounting brackets for fixed installations of CANSAS modules with Alu profile housing		
CAN/BRACKET-90	mounting bracket 90°	1050319
CAN/BRACKET-DIN-S	DIN Rail mounting bracket - Type S	1050324
CAN/BRACKET-DIN-M	DIN Rail mounting bracket - Type M	1050325

Mounting brackets for fixed installations of CANSAS-SL modules		
CAN/SL-BRACKET-CON	connection bracket	1150048
CAN/SL-BRACKET-90	mounting bracket 90°	1150047
CAN/SL-BRACKET-180	mounting bracket 180°	1150049

Technische Daten - DAC8

Parameter	Value (typ./max.)	Remarks
Channels	8	each channel configurable separately
Operation mode	voltage source current source	suitable plug for both modes: ACC/DSUBM-DAC4
Output range	-10 V to +10 V 0 mA to 20 mA	(connected to min. 1 kΩ for voltage mode) (connected to max. 250 Ω for current mode)
Sampling rate	5 kHz (max.)	
Analog bandwidth	5 kHz	-3 dB
Resolution	16 bit 15 bit	as voltage source as current source
Accuracy deviation	<0.1%	of the output range
Output value upon power-up	0 V	
Isolation CAN-Bus power supply analog outputs	 ±60 V ±60 V no isolation	to CHASSIS nominal; testing voltage: 300 V (10 s) nominal; testing voltage: 300 V (10 s) analog reference ground: CHASSIS
CANopen® mode	"CiA® DS 301 V4.0.2" and "CiA® DS 404V1.2" supports 4 RPDOs in INT16, INT32, and FLOAT	

Power supply and terminal connections of the module		
Parameter	Value (typ./max.)	Remarks
Supply voltage	10 V to 50 V DC	
Power consumption	6 W (typ.)	12 V supply, 23°C
Operating temperature	-20°C to 85°C	
Dimensions (W x H x D)	35 x 111 x 90 mm 35 x 111 x 145 mm 41 x 128 x 145 mm 75 x 111 x 145 mm	CANSAS-DAC8 CANSAS-L-DAC8 CANSAS-K-DAC8, -K-DAC8-BNC (8TE) CANSAS-L-DAC8-V
Weight	300 g	for CANSAS-DAC8
Connection terminals	2x DSUB-15 8x BNC 8x ITT Veam 2x DSUB-9 PHOENIX (MC 1.5/4STF-3.81)	outputs DAC8, -L-DAC8 –K-DAC8 –K-DAC8-V CAN (in/out) supply
Connection terminals for SL	2x DSUB-15 / 4 channels 2x DSUB-9 1x 6-pin LEMO (HGA.1B.306)	CANSAS-SL-DAC8-D CAN (in/out), power supply (alternatively) DC supply for all SL models