

# d5IO12 – I/O module

**dasa5** is a control system developed for use in heavy-duty vehicles that operate in demanding environments.

The system is constructed around a centre control computer with separate display and distributed CAN nodes for connecting inputs and outputs. The system can be configured to control everything from simple vehicles to sophisticated machines with complex applications.

## d5IO12

Unit that handles 12 programmable inputs or outputs. Certain inputs can be programmed as frequency inputs, 2-channel pulse counters or enumerators.



## Technical data

### GENERAL DATA

Weight	0.5 kg
Ambient temperature in operation	- 40 to + 70 °C
in storage	- 40 to + 70 °C
Protection class	IP67
Supply voltage	10 - 30 V DC
Power consumption	100 mA (24 V DC)
Size	133 x 118 x 35 mm (incl. fixing lugs)
Case	Plastic
Connectors	2 Deutsch DTM

### INPUTS

Max. number inputs	12
Max. number voltage/current inputs	12
Max. number frequency inputs	4
Max. number 2-channel pulse sensors	4
Max. number enumerators	8 (level-triggered)
Voltage inputs	0–30 V (9 mV resolution)
Strömingsångar	0–20 mA (5 µA resolution)
Digital inputs, pulse sensor inputs switching level	3.5 V
Frequency inputs max. frequency	30 kHz

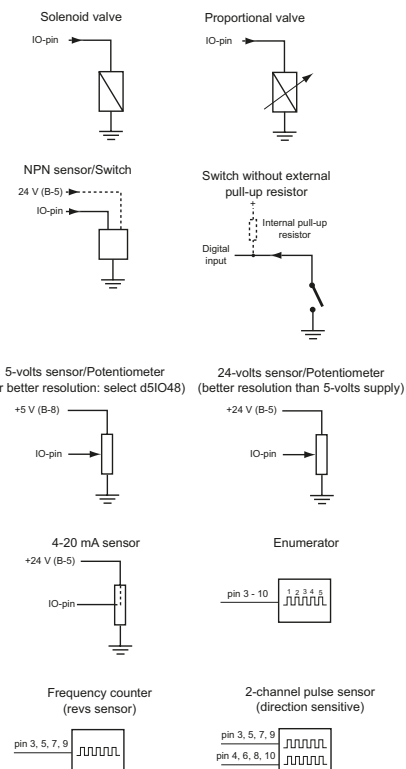
Connection of pull-up resistor can be made via software (2.2 kohm to system voltage).

### OUTPUTS

Max. number outputs	12
Rated output current	0-3000 mA (3.2 mA resolution)
Ripple frequency (DitherFreq)	25-500 Hz (configurable in the DCL Tool)
Ripple amplitude (DitherAmpl.)	0-50% (configurable in the DCL Tool)
PWM frequency	5 kHz (fixed)
Max. load for the unit totally	15 A

The outputs are pulse width modulated with a sufficiently high frequency so that loads can perceive the voltage as a DC voltage. This frequency is modulated in turn at a lower frequency, 25-500 Hz, to simulate a superimposed sine curve. The amplitude of this is also adjustable. The unit can detect interruption and short-circuiting at the outputs. The unit also includes an internal temperature sensor.

## EXAMPLES OF CONNECTION



## CONNECTORS



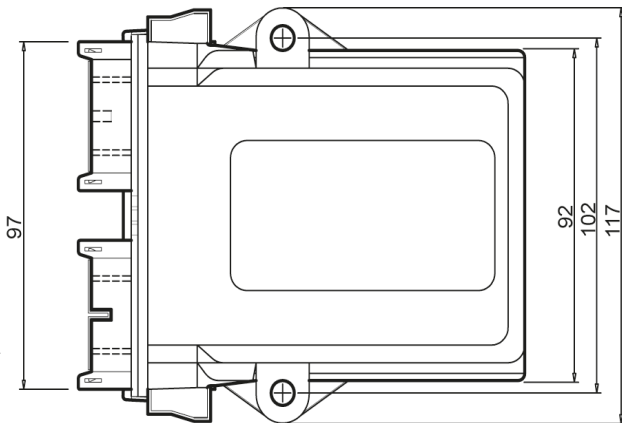
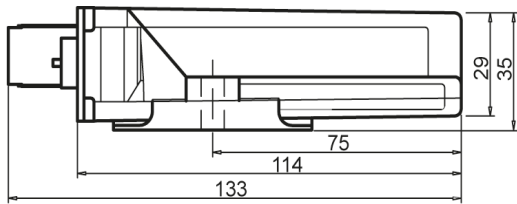
## CONNECTOR A

Matching device: Deutsch DTM06-12SA

All connections can be configured as output, digital input, voltage input or current input. Furthermore, certain connections can be configured as frequency inputs, 2-channel pulse counters or enumerators according to the table below.

Conn No.	Freq. input	2-chan. pulse count.	Enumerator
1	NO	NO	NO
2	NO	NO	NO
3	YES	YES With pin 4	YES
4	NO	YES With pin 3	YES
5	YES	YES With pin 6	YES
6	NO	YES With pin 5	YES
7	YES	YES With pin 8	YES
8	NO	YES With pin 7	YES
9	YES	YES With pin 10	YES
10	NO	YES With pin 9	YES
11	NO	NO	NO
12	NO	NO	NO

## DIMENSIONS



## CONNECTOR B

All 6 IO-devices are configured in the same way.

Matching device: Amp 174047-2 (Multilock)

Conn No.	Function	Comment
1	CAN-H	Ansl 1 & 2 are interconnected internally
2	CAN-H	
3	+10-30 V in	Ansl 3 & 10 are interconnected internally, max 7.5 A
4	ID-Tag	The ID tag is connected between 4 and optional gnd connection (6, 7 or 9).
5	+10-30 V out	Fused voltage to sensor max. 150 mA
6	gnd	Conn 6,7 & 9 are interconnected internally
7	gnd	
8	+5 V	Fused voltage to sensor max. 500 mA (for unit with part No. 1510.03)
9	gnd	
10	+10-30 V in	Conn. 3 & 10 are interconnected internally max. 7.5 A
11	CAN-L	Conn. 11 & 12 are interconnected internally
12	CAN-L	

Both pin 3 & pin 10 must be supplied with 10-30 V if one wishes to take out more than 7.5 A.

The total current outlet from the unit will then be 15 A.

## LIGHT EMITTING DIODES

LED	FUNCTION
R	ERROR, red lights for fault
Y	CAN, yellow lights on contact with CAN bus
G	POWER, green lights when unit is powered

*Dasa is a leading supplier of advanced computerized control and communication systems for heavy vehicles. We develop and manufacture systems, based on high technical expertise, for control and information management together with complete applications for forest harvesting.*

