DA-04-VX

General

The analogue output module is fitted with four independent analogue outputs. The outputs have an output voltage range of 0-10V with 8 bit resolution. The output voltage ranges can be reprogrammed between 0 to 10V (e.g. 1 to 10V for connecting standardised ballasts) using software.

The voltages of the module's outputs are galvanically separated from the subnet and from the module's operating voltage. There is no potential separation between the four outputs themselves.

The outputs can carry a maximum current source or current sink load of 20mA per output. The module is equipped with two microcontrollers and can therefore execute even very complex master commands independently. This increases the data throughput on the BUS and reduces the amount of system programming required by the user.

The following functions can be performed independently by the DA module:

- Calculation of rise times from 0.5 seconds to 18 hours
- Independent switch from current ACTUAL analogue values to specified TARGET analogue values with a specified speed (optional in specified time)
- "Analogue value reached" feedback signal after time functions have been performed
- Stop function whilst time functions are being performed
- OVERSAMPLING error correction (the DA module independently corrects the analogue values skipped by the BUS system cycle times using "OVERSAMPLING". The analogue values between the BUS cycles are transformed back into the 8 bit resolution by means of linearisation, thus preventing, for example, flickering when controlling dimmers. In programming OVERSAMPLING is called a SOFT function).
- Performs flash functions
- Adjustment to different illuminants and dimmers
- Calculation of defined and definable curves
- Calculation of the minimum and maximum settings per channel for using the full 8-bit width
- Complex emergency mode functions

Inputs / Outputs

- 4 analogue outputs 0 (1)-10V
- 1 emergency input "E". The function can be parameterised for each channel.

Function displays

- 1 red LED indicates the operating voltage
- 1 flashing yellow LED indicates communication with the master via the subnet
- 1 green LED indicates that the outputs are being regulated (LED flashes until the desired final value has been reached).

Connections
- 1 connection for the subnet (BUS A and B, RS-485)
- 1 connection for the operating voltage (Ub, 0V)
- 4 outputs 0-10V (1-10V)
- 4 GND connections for outputs (internal connected)
- 1 average outputs
- 2 P-COM connections (subnet and operating voltage)

Design
- Light grey plastic casing, can be snapped onto 35 mm DIN rail mounting 3 separating units

Special function DIP switch 1
- reserve
  - switch must be OFF

Parameterisation
The ISYGLT ProgrammDesigner offers various parameterisation options.
- Min-max values for each channel
- Feedback bit function per channel
- Curve calculation definition
- Emergency mode definition
- Dimming curve setting
- Emergency mode in the event of bus failure

The following table contains detailed information about these options:

Please note:
1st column = parameter tab
2nd column = setting (function)
3rd column = description of the parameter to be set
4th column = possible setting (default values are in ***bold italics)***

Tab	Settings	Parameter	Value
basic setting	channel 1	minimul value	***0,00%*** ... 100,00 %
		maximum value	0,00% ... ***100,00%***
		output voltage at “0”	***ever 0V*** minimum value remains

Tab	Setting	Parameter	Value
		dimmer curve	***linear*** logarithmic quadratic on/off User curve 1 User curve 2 User curve 3 User curve 4
	channel 2 ...4	see channel 1	
special	channel 1	Speed value means Speed value speed The specified fade time always refers to the time from 0-100% e.g. 10s. Dimming always occurs at the same speed which means that dimming from 50-100 only takes 5 seconds. This is the default setting which should always be set except for light sequence controls (multiscene). Speed value time The fade time is always calculated absolutely. If 10s is specified the change from 0-100% will take 10s. The change from 90-100% also takes 10s. This setting should be used for light sequence control (multiscene).	***speed*** time
		Speed resolution 1 digit equals The speed resolution indicates the converte fade time. The default is 0.5s, which allows a fade time of 0-120s. Resolution 0.1s is available for fast processes, which is equivalent to a fade time of 0-24s.	***0,5s standard*** 0,1s 1s special 1s/1m/10m online curve selection
		Linearisation	***only with Soft***
		Feedback bit Ex.1 indicates:	***control*** on/off
Emergency operation	channel 1	ISYGLT bus timeout time – bus failure detection The time is stated in seconds for detecting a BUS failure. This should be set slightly longer than the time programmed in the master module.	***25s*** (5 to 255 Secs)
		Action after bus failure Action after bus failure AA1 Setting (for each channel) to be implemented when the bus failure has been detected.	***no change*** 0% 20% 50% 80% 100%
		Action active in emergency mode Signal at emergency input „E“	no change 0% 20% 50% 80% ***100%***

Tab	Setting	Parameter	Value
		Emergency mode (emergency input “E”) active when:	***Input on GND*** Input open
	channel 2 ... 4	see channel 1	
User curves	User curve 1	Dimming value for 0%	0,00%
(freely definable!)		Dimming value for 5%	5,00%
		Dimming value for 10%	10,00%
		Dimming value for 100%	.... 100,00%
	User curve	see User curve 1	

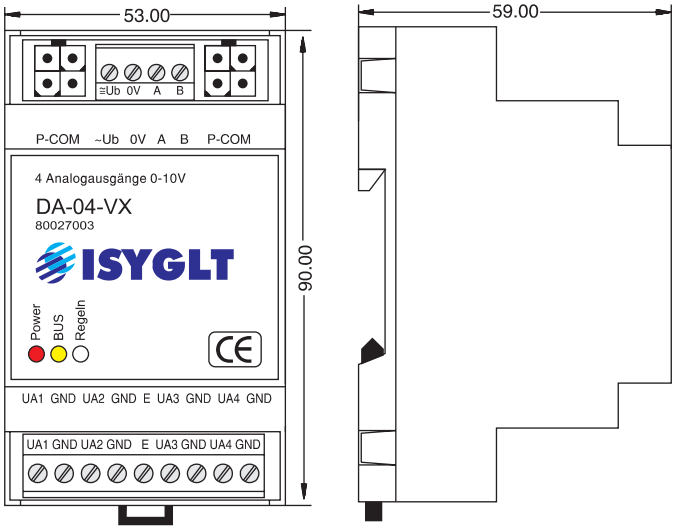
Technical data

Type	DA-04-VX
Art. Nr.	80027003
Operating voltage	18V to 35V DC or 18V to 27V AC
Current consumption	max. 120mA at 35V, and full load of the outputs max. 200mA at 18V, and full load of the outputs
Output voltage	4 analog channels 8Bit resolution 0-10V
Output current	20mA each channel operation as current source or current drain (Gesamt 80mA)
Insulation voltage	300V (subnet / analog outputs)
Subnet (RS-485)	max. 5,6V limited by Z-diodes
Dimensions	LxBxH, 53x90x59mm = 3TE
Weight	200g
Connections	Screw terminals pluggable and P-COM connections
Operating temperature	-10...+50°C
Storage temperature	-25...+70°C
Humidity	0 ...85 % r.F. non condensing
Protection class	IP30
ESD immunity	Category 3 according to IEC1000-4-2
EMV immunity	Use in typical industrial enviroment. Category 3 according to IEC-1000-4-4 (Test was carried out within a whole system)
CE sign	ja

Terminal assignment

≅ Ub	Operating voltage
0V	Operating voltage
A	subnet (BUS A, RS-485)
B	subnet (BUS B, RS-485)
E	Average input
GND	Reference potential (Masse) for analog outputs (4x internal connected)
UA1	Analog output channel 1
UA2	Analog output channel 2
UA3	Analog output channel 3
UA4	Analog output channel 4

View



Wiring diagram