LON analogue output modules
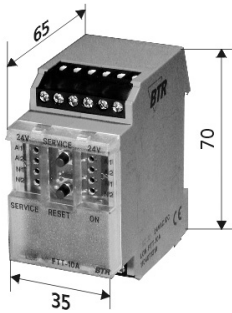
Logline®
LON

LAAp-C12
24 V AC/DC, 4 x 0 ... 10 V DC

Part Number
110 442 13

Dimensions - C12 housing

65
70
35

Wiring

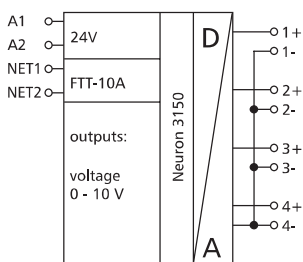| 4-	4+		3-	3+
A1	24 V AC/DC		A1	
A2	GND		A2	
N1	NET 1		N1	
N2	NET 2		N2	
1+	1-		2+	2-
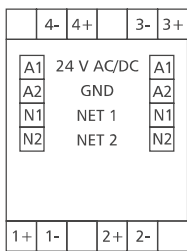
Wiring Diagram

Use

LON module with 4 analogue outputs. Suitable as encoder for regulating variables for i. e. electrical vent and mixing valves, valve positions etc.

Functional description

The different outputs are activated proportionally by the network variables SNVT and accordingly they provide a voltage between 0 and 10 Volt. In addition the outputs can be set to previously defined voltage values. The manual position of the potentiometer is signalled.

LON interface

transceiver	FTT10A free topology
neuron	3150
data format	standard network variables (SNVT)
transmission rate	78 kBit/s
max. length	
line topology	2700 m / 64 nodes
free topology	500 m / 64 nodes
cabling	twisted pair

Application software

XIF and NXE files are available as downloads under **www.btr-electronic-systems.de**.

Technical data

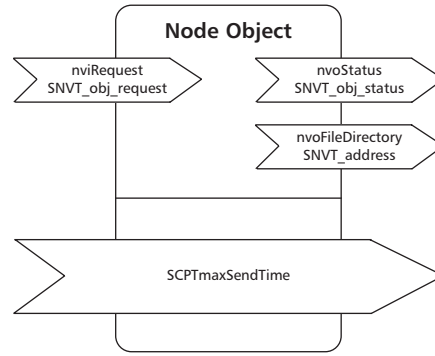|		
Housing	dimensions w*h*l	35 x 70 x 65 mm
	weight	84 g
	mounting position	any
	mounting	DIN rail as per EN 50022
	material	housing + terminal blocks polyamide 6.6 V0 cover plate polycarbonate
	type of protection	housing IP40
	(DIN 40050)	terminal blocks IP20
Terminal blocks	supply and bus	pluggable terminal block 1.5 mm² (terminal block and jumper plug are included to each packing unit)
	analogue outputs	2.5 mm²
Supply	operating voltage range	20 ... 28 V AC/DC
	current consumption	90 mA (AC) / 32 mA (DC)
	duty cycle	100 %
	recovery time	550 ms
Output	output voltage	0 ... 10 VDC
	output current (10 VDC)	5 mA
	resolution	10 mV
	failure max.	±100 mV
Temperature range	operation	-5 °C ... +55 °C
	storage	-20 °C ... +70 °C
Protective circuitry	operating voltage	polarity reversal protection
Display	operation	green LED
	function	yellow LED for status (service)
Note		The modules can be mounted in series without interspace. The max. number of modules connected in series is 15, each group needs an external power supply.

BTR NETCOM

LON analogue output modules

Description of the LonMark objects and network variables

LAAp-C12

Node Object

nviRequest SNVT_obj_request	nvoStatus SNVT_obj_status
	nvoFileDirectory SNVT_address

SCPTmaxSendTime

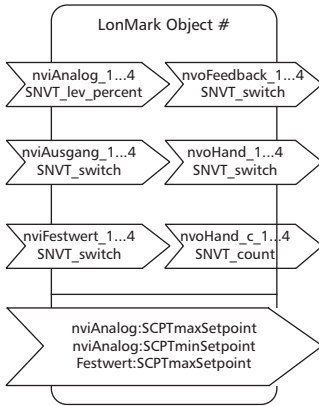|	
nviRequest	**NVT_obj_request**
nvoStatus	**SNVT_obj_status**
nvoFileDirectory	**SNVT_address**

The Node Object monitors and controls the functions of the different objects in the device. It supports the basic functions Object-Status and Object-Request required by LonMark.

SCPTmaxSendTime	**SNVT_time_sec**

All output variables described below are issued even without status change at the end of a preset period.

Time settings: 0 timer function off-state
6553,4 s (factory setting 60 s)

UOut_1...4 Objects

LonMark Object #

nviAnalog_1...4 SNVT_lev_percent	nvoFeedback_1...4 SNVT_switch
nviAusgang_1...4 SNVT_switch	nvoHand_1...4 SNVT_switch
nviFestwert_1...4 SNVT_switch	nvoHand_c_1...4 SNVT_count

nviAnalog:SCPTmaxSetpoint
nviAnalog:SCPTminSetpoint
Festwert:SCPTmaxSetpoint

UOut_1...4 Objects

nviAnalog_1...4

SNVT Type	SNVT_lev_percent
Function	The output signal voltages corresponding to the variables.
nviAnalog_1...4 = 0...100 %	output 1..4 = 0..10 V DC

nviAusgang_1...4

SNVT Type	SNVT_switch
Function	The output signal voltages corresponding to the value portion of the variables. The state portion is discounted.
nviAusgang_1...4 = 0...100 % x	output 1..4 = 0..10 V DC

The input variables described above are equal. The output supplies the last received value. Therefore, it is necessary that SCPTMaxSendTime is set to 0 seconds (timer function off-state) when using both input variables.

nviFestwert_1...4

SNVT Type	SNVT_switch
Function	Overrides the outputs to the percentages that are preset in SCPTmaxSetPoint. Only the state portion will be interpreted.
nviFestwert_1...4 = x.x (-)1	output 1..4 = SCPTmaxSetpoint
nviFestwert_1...4 = x.x 0	output 1..4 = nviAnalog_1...4 or nviAusgang_1...4

nvoFeedback_1...4

SNVT Type	SNVT_switch
Function	Transmits the feedback value of the object. The value portion transmits the value of nviAnalog_1...4 or value portion of nviAusgang. The state portion transmits the operation mode:
Automatic:	x% 1
Manual:	x% 0

nvoHand_1...4

SNVT Type	SNVT_switch
Function	Transmits feedback of manual operation.
Potentiometer on left stop	= automatic 100,0 1
Potentiometer not on left stop	= manual 0,0 0

nvoHand_c_1...4

SNVT Type	SNVT_count
Function	Transmits the manual feedback.
Potentiometer on left stop	= automatic 3
Potentiometer not on left stop	= manual 1

nviAnalog:SCPTmaxSetpoint

SNVT Type	SNVT_lev_percent
Function	Upper range limit of the output in percent. When entering 85 % for example the output adopts a value of 8.5 V with a value of 100 % of the input variables.
Value settings:	0...100 %

nviAnalog:SCPTminSetpoint

SNVT Type	SNVT_lev_percent
Function	Lower range limit of the output in percent. When entering 15 % for example the output adopts a value of 1.5 V with a value of 0 % of the input variables. The total range results of both settings. When maxSetpoint = 85 and minSetpoint = 15 an input value between 0 and 100 % of a voltage between 1.5 and 8.5 results at the output.
Value settings:	0...100 %

Festwert:SCPTmaxSetpoint

SNVT Type	SNVT_lev_percent
Function	Preset percentage when using nviFestwert_1...4
Value settings	0...100 %