

INSTRUCTIONS

Type LonWorks Gateway OJ-LON1 0936A100



57029 - 03/07 (BJ)



English

This instruction describes the OJ-LON gateway, which provides connectivity for the OJ Electronics standard ventilation system, OJ Air, to a LonWorks network.

This instruction applies to OJ-LON with ProgramID: 4F:31:2D:31:2E:30:31:00.

Product Program

Type	Product
OJ-LON	LonWorks Gateway to ABC-Bus

Function

The LonWorks gateway converts the signals on the internal RS485 ABC-Bus, to standard LonMark Association SNVT's, such that it is possible to communicate with an AHU, which is equipped with an OJ Air control system, from a LonWorks network.

An FTT-10A transceiver with a transmission speed of 78kbps free topology is used.

CE MARKING

Subject to the consequences of the law, OJ Electronics A/S declares that this product complies with Council EMC Directive 92/31/EEC and subsequent modifications concerning electro-magnetic compatibility, and Council Low Voltage Directive 72/23/EEC (LVD) and subsequent modifications concerning electric material for application within certain voltage limits.

Standards applied

Electromagnetic compatibility (EMC): EN 61000-6-2 and EN 61000-6-3

The product is intended for installation in machines or assembly with other machine parts for installation in machines covered by the Council Machinery Directive 98/37/EEC - therefore it does not fulfil the provisions in this directive in all respects.

Technical data

Supply

OJ-LON is supplied from the ABC-Bus with24VDC.

ABC-Bus connection

SignalRS 485(half duplex, 9,6kbaud)
 ProtocolABC (Automatic Bus Configuration)
 ConnectorRJ11/6 jack
 (double female mounted in module)
 Max. cable length100m

LonWorks connection

TransceiverFTT-10A
 Speed78kbps
 ConnectorPTA STLZ950/2G-508H
 (2-pole male and female parts are supplied with the module)
 Max. cable length500m

Environmental data

Enclosure ratingIP20
 Air humidity10-90% RH
 Temperature range0-50°C

Mechanical Installation

The LonWorks gateway is to be mounted on a DIN rail in an enclosure with the enclosure rating required by the installation.

The gateway dimensions can be seen from figure 1.

Electrical Installation

- The network cable to the LonWorks network is connected to the LonWorks gateway using the supplied 2-pole male connector.
- Then connect the LonWorks Gateway to the ABC-Bus using an RJ11/6 jack.
- In LonMaker for Windows, select configuration mode.
- Activate the Service Request button on the LonWorks gateway.
- Connections are made with either LonMaker for Windows or OPC server. An OPC server CANNOT configure the LonWorks gateway.

Location of the terminals can be seen in figure 1.

User Interface

The user interface consists of 3 LED diodes and a service button on the outside of the enclosure. The service button, for configuring the node, is activated using a pin or screwdriver with maximum ø2mm. The LED diodes have the following colours and functions:

LED Name	Colour	Function
Service	Yellow	Blinks, when the node in not configured Turned off, when the node has been configured Constant lit, while the service button is being pushed
Com.	Green	Blinks at every acknowledged communication with master module Constant lit/turned off on communication errors
Power	Green	Constant lit, when the module has power Blinks during initialisation

Location of LED diodes and service button is shown in figure 1.

Limitations

The LonWorks Module is designed to connect an OJ Air ventilation system using ABC-Bus to a LonWorks network. When used in connection

with an OPC server, it is important that the LonWorks module is configured using, for example, LonMaker for Windows before being connected to the OPC server as no data is transmitted on the network before the gateway is configured.

Software

The specific parameters on the ABC-Bus are made available on the LonWorks network, such that most of the values that are accessible from the handheld terminal are also available and adjustable from the LonWorks network.

For the purpose of making network bindings a XIF file is available for download from www.oj.dk. This file is only to be downloaded if i.e. LonMaker for Windows is used as network tool.

Lists of included network variables are shown in tables 1-3.

Environment and recycling

Please help us to protect the environment by disposing of the packaging in accordance with the national regulations for waste processing.

Recycling of obsolete appliances

Appliances with this label must not be disposed off with the general waste. They must be collected separately and disposed off according to local regulations.

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Dansk

Denne instruktion beskriver OJ-LON gatewayen, der giver mulighed for at tilslutte OJ Electronics standard ventilation system, OJ Air, til et LonWorks netværk.

Denne instruktion er gældende for OJ-LON med ProgramID: 4F:31:2D:31:2E:30:31:00.

Produkt Program

Type	Produkt
OJ-LON	LonWorks Gateway til ABC-Bus

Funktion

LonWorks gatewayen konverterer signalerne på den interne RS485 ABC-Bus, til standard LonMark Association SNVT's, således at det er muligt at kommunikere med et ventilations aggregat udstyret med en OJ styring, fra et LonWorks netværk.

Der benyttes en FTT-10A transceiver med en transmissionshastighed på 78kbps i fri topologi.

CE MÆRKNING

OJ Electronics A/S erklærer under ansvar, at dette produkt opfylder Rådets Direktiv 92/31 og efterfølgende ændringer om elektromagnetisk kompatibilitet samt Rådets Direktiv 73/23 og efterfølgende ændringer om elektrisk materiel bestemt til anvendelse indenfor visse spændingsgrænser.

Table 3: Optional Network Variables/Output Parametre

nv1	NvoTime	Readout of clock and date
	SNVT_time_stamp	
nv2	nvoTempInSetpt	Setpoint for Inlet Temperature
	SNVT_temp_p	
nv3	nvoSpaceTempSP	Setpoint for Room Temperature (Outlet)
	SNVT_temp_p	
nv4	nvoOpTimeDays	Readout of Total Operating Time in Days
	SNVT_Count	
nv5	nvoMaxFlow	Readout of Maximum Flow allowed
	SNVT_flow	
nv7	nvoUnitMode	Readout of Unit Operational Mode
	SNVT_state	OFF = 0000000000000000 ON = 0000000000000001 Auto = 0000000000000010
nv6	nvoOccFlowIn	Setpoint for Occupied Inlet Airflow
	SNVT_flow	
nv8	nvoUnOccFlowIn	Setpoint for Unoccupied Inlet Airflow
	SNVT_flow	
nv9	nvoOccFlowOut	Setpoint for Occupied Outlet Airflow
	SNVT_flow	
nv10	NvoUnOccFlowOut	Setpoint for Unoccupied Outlet Airflow
	SNVT_Flow	
nv11	NvoOccVavIn	Setpoint for Occupied Inlet VAV in %
	SNVT_lev_percent	
nv20	nvoUnOccVavIn	Setpoint for Unoccupied Inlet VAV in %
	SNVT_lev_percent	
nv12	NvoOccVavOut	Setpoint for Occupied Outlet VAV in %
	SNVT_lev_percent	
nv13	nvoUnOccVavOut	Setpoint for Unoccupied Outlet VAV in %
	SNVT_lev_percent	
nv14	NvoHeatXchng	Rotation of Heat Exchanger in %
	SNVT_switch	
nv15	NvoMotorHzIn	Current Motor Frequency for Inlet Fan
	SNVT_freq_Hz	
nv16	NvoMotorHzOut	Current Motor Frequency for Outlet Fan
	SNVT_freq_hz	
nv17	NvoMinFlowCool	Configuration of Minimum Airflow with Cooling applied.
	SNVT_Flow	
nv18	NvoTempIn	Measured Temperature in Inlet
	SNVT_temp_p	
nv19	nvoSpaceTemp	Measured Temperature in Room (Outlet)
	SNVT_temp_p	
nv21	nvoFrostGuard	Measured Temperature from Water coil Frost Guard
	SNVT_temp_p	
nv22	nvoMaxTempIn	Readout of Maximum Inlet Temperature in Room Control Mode
	SNVT_temp_p	
nv23	nvoMinTempIn	Readout of Minimum Inlet Temperature in Room Control Mode
	SNVT_temp_p	
nv24	nvoAlarmLog	Readout of Alarm event
	SNVT_alarm	The following elements of SNVT_alarm (88) are used actively: · object ID; "Alarm number as shown in handheld terminal. For alarm definitions please refer to the AHU manufacturers documentation · year; · month; · day; · hour; · minute
nv25	NvoAirflowIn	Measured Airflow in Inlet
	SNVT_flow	
nv26	nvoAirflowOut	Measured Airflow in Outlet
	SNVT_fow	
nv27	nvoCoolStop	Readout of Stop Temperature for Cooling Control
	SNVT_Temp_p	
nv28	nvoFilterstatIn	Measured differential pressure across Inlet Filter in % of filter setpoint.
	SNVT_lev_percent	
nv29	nvoFilterstatOut	Measured differential pressure across Outlet Filter in % of filter setpoint.
	SNVT_lev_percent	
nv30	nvoCoolAnaOut.	Readout of Analogue Output Voltage for Cooling control in %
	SNVT_lev_percent	

Table 3: Optional Network Variables/Output Parametre

nv31	nvoReheatAnaOut. SNVT_lev_percent	Readout of analogue Output Voltage for Reheating control in %
nv32	nvoOutdoorTemp SNVT_Temp_p	Measured Outdoor temperature
nv33	nvoTempOut SNVT_Temp_p	Measured Outlet temperature
nv34	nvoTempCntMode SNVT_state	Temperature Control Mode Constant Supply Air = 00000000000000 Extract Air = 000000000000001 Extrac/Supply Air Differential = 00000000000010
nv35	nvoFlowCntMode SNVT_State	Airflow Control Mode Flow Control = 00000000000000 Pressure Control = 00000000000001 CO ² Control = 00000000000010
nv36	nvoUnitOpMode SNVT_State	Operational Mode Occupied = 00000000000000 Stop = 00000000000001 Unoccupied = 00000000000010

Fig. 1

