



SMARTEH[®]
LIVING SYSTEMS

USER MANUAL

- ▶ Longo programmable controller
LPC-2.VV1
Pressure Sensor module

Version 2

Written by SMARTEH d.o.o.
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User Manual

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STANDARDS AND PROVISIONS: Standards, recommendations, regulations and provisions of the country in which the devices will operate, must be considered while planning and setting up electrical devices. Work on 100 .. 240 V AC network is allowed for authorized personnel only.

DANGER WARNINGS: Devices or modules must be protected from moisture, dirt and damage during transport, storing and operation.

WARRANTY CONDITIONS: For all modules LONGO LPC-2 - if no modifications are performed upon and are correctly connected by authorized personnel - in consideration of maximum allowed connecting power, warranty of 24 months is valid from the date of sale to the end buyer, but not more than 36 months after delivery from Smarteh. In case of claims within warranty time, which are based on material malfunctions the producer offers free replacement. The method of return of malfunctioned module, together with description, can be arranged with our authorized representative. Warranty does not include damage due to transport or because of unconsidered corresponding regulations of the country, where the module is installed.

This device must be connected properly by the provided connection scheme in this manual. Misconnections may result in device damage, fire or personal injury.

Hazardous voltage in the device can cause electric shock and may result in personal injury or death.

NEVER SERVICE THIS PRODUCT YOURSELF!

This device must not be installed in the systems critical for life (e.g. medical devices, aircrafts, etc.).

If the device is used in a manner not specified by the manufacturer, the degree of protection provided by the equipment may be impaired.

Waste electrical and electronic equipment (WEEE) must be collected separately!

LONGO LPC-2 complies to the following standards:

- EMC: EN 61000-6-3:2007 + A1:2011, EN 61000-6-1:2007, EN 61000-3-2:2006 + A1:2009 + A2: 2009, EN 61000-3-3:2013
- LVD: IEC 61010-1:2010 (3rd Ed.), IEC 61010-2-201:2013 (1st Ed.)

Smarteh d.o.o. operates a policy of continuous development. Therefore we reserve the right to make changes and improvements to any of the products described in this manual without any prior notice.

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Longo programmable controller LPC-2.VV1

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1 DESCRIPTION

LPC-2.VV1 is precision differential pressure measurement module.

LPC-2.VV1 differential pressure module is excellent choice for air pressure or flow VAV (variable air volume) regulation and monitoring.



2 FEATURES

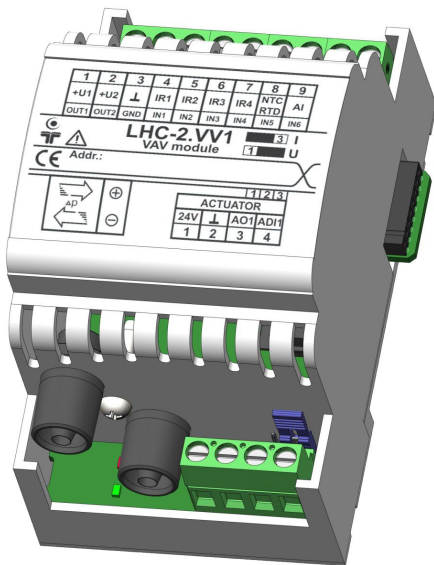


Figure 1: LPC-2.VV1 module.

Table 1: Technical data

Differential pressure measurement up to 1000 Pa

Standard DIN EN50022-35 rail mounting



3 OPERATION

3.1 Parameters

Actual pressure: Represent actual differential pressure measured by LPC-2.VV1 module in Pascals (Pa). Actual pressure value 0 .. 1000 Pa is represented as 0 .. 1000 number in main module.



4 INSTALLATION

4.1 Connection scheme

Figure 2: Connection scheme

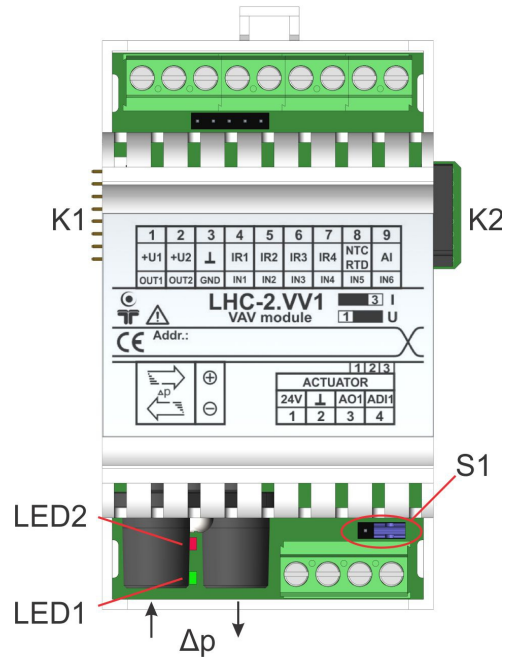




Table 1: Δp pipe connection

+	positive pressure pipe connection	0 .. 1000 Pa
-	negative pressure pipe connection	reference to positive pressure (+)

Table 2: K1

Internal BUS	Data & DC power supply	Connection to I/O module
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Table 3: K2

Internal BUS	Data & DC power supply	Connection to I/O module
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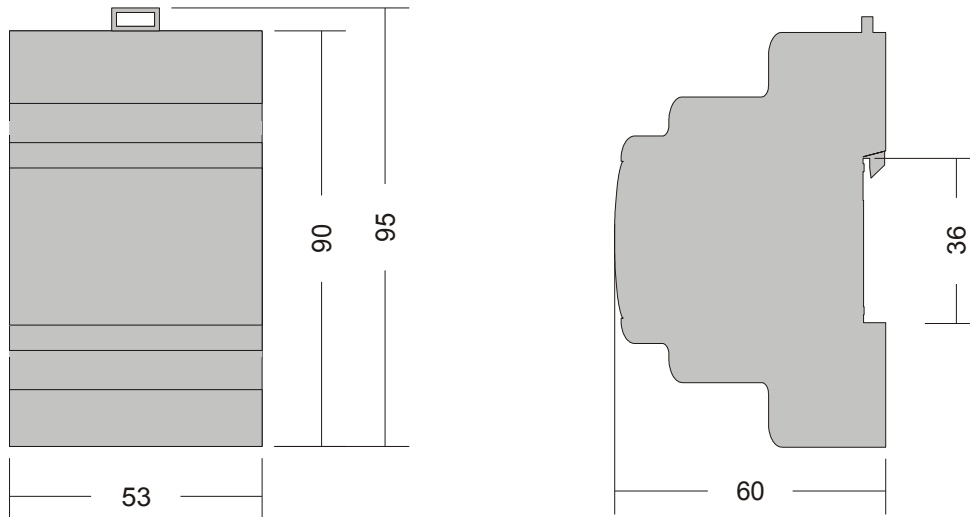
Table 4: LED

Status	Green LED: indicates VV1 state	Off: no power supply or module fault On: OK
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4.2 Mounting instructions

Figure 3: Housing dimensions



Dimensions in millimeters.



All connections, module attachments and assembling must be done while module is not connected to the main power supply.

Mounting instructions:

1. Switch OFF main power supply.
2. Mount LPC-2.VV1 module to the provided place inside an electrical panel (DIN EN50022-35 rail mounting).
3. Mount other LPC-2 modules (if required). Mount each module to the DIN rail first, then attach modules together through K1 and K2 connectors.
4. Connect delta pressure pipes and actuator wires according to the connection scheme in Figure 2.
5. Switch ON main power supply.
6. Green LED should turn on according to the Table 5.

Dismount in reverse order. For mounting/dismounting modules to/from DIN rail a free space of at least one module must be left on the DIN rail.

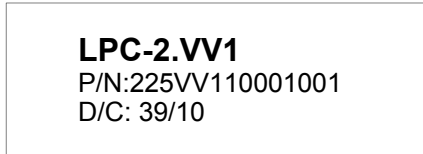
NOTE: LPC-2 main module should be powered separately from other electrical appliance connected to LPC-2 system. Signal wires must be installed separately from power and high voltage wires in accordance with general industry electrical installation standard.



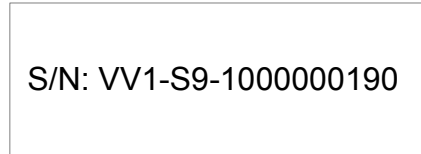
4.3 Module labeling

Figure 4: Labels on housing

Label 1(LPC-2.VV1 module sample):



Label 2(LPC-2.VV1 module sample):



Label 1 description:

1. **LPC-2.VV1** is the full product name.
2. **P/N:225VV110001001** is the part number.
 - **225** - general code for LPC-2 product family,
 - **VV1** - short product name,
 - **10001** - sequence code,
 - **10** - year of code opening,
 - **001** - derivation code,
 - **001** - version code (reserved for future HW and/or SW firmware upgrades).
3. **D/C:39/10** is the date code.
 - **39** - week and
 - **10** - year of production.

Label 2 description:

1. **S/N:VV1-S9-1000000190** is the serial number.
 - **VV1** - short product name,
 - **S9** - user code (test procedure, e.g. Smarteh person xxx),
 - **1000000190** - year and current stack code,
 - **10** - year (last two cyphers),
 - **00000190** - current stack number; previous module would have the stack number **00000189** and the next one **00000191**.



5 TECHNICAL SPECIFICATIONS

Table 5: Technical specifications

Power supply	from internal BUS
Number of delta pressure inputs	1
Operating pressure	0 .. 1000 Pa
Proof pressure	15000 Pa
Burst pressure	20000 Pa
Pressure sensor accuracy on full scale value	+/- 0.5 % FSS (+/-5 Pa)
Recommended internal diameter for measuring pipes connection	4.0 .. 4.5 mm
Max. power consumption	0.5 W
Dimensions (L x W x H)	90 x 18 x 60 mm
Weight	100 g
Ambient temperature	0 to 50 °C
Ambient humidity	max. 95 %, no condensation
Maximum altitude	2000 m
Mounting position	vertical
Transport and storage temperature	-20 to 60 °C
Pollution degree	2
Protection class	IP 30



6 CHANGES

The following table describes all the changes to the document.

Date	V.	Description
1.7.2012	002	CGP General update.
28.10.2010	001	The initial version, issued as <i>LPC-2.VV1 UserManual</i> .





7 NOTES

