

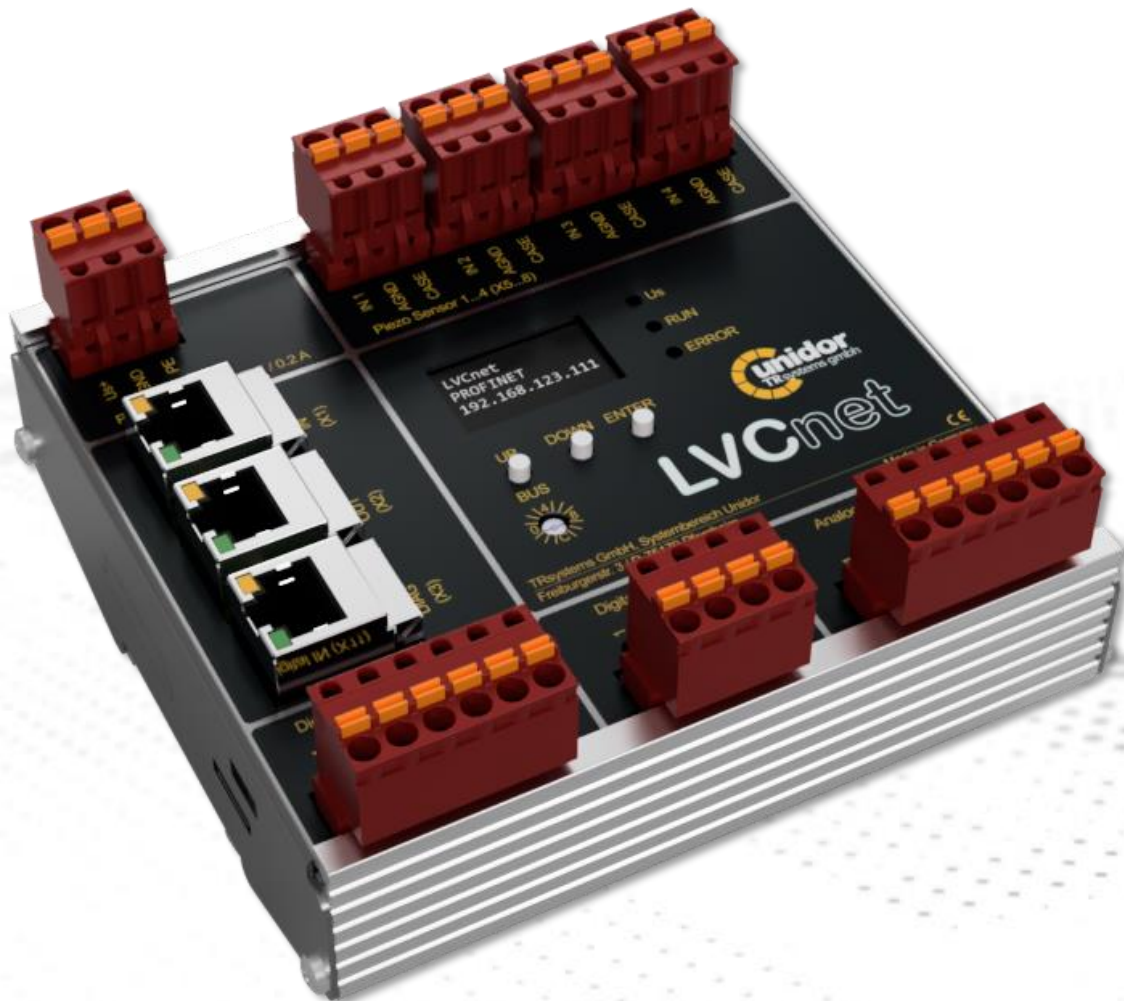
# Digital charge amplifier

Series: LVCnet LVC-XXXX-XX

Ref.: Product\_datasheet

26.01.2024

1040 5x 04 0000



Subject to changes

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Last update: 01/2024

Subject to changes in technology and design.

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# Digital load amplifier

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The LVCnet charge amplifier cassette is a digital 2/4-channel load amplifier with integrated multiprotocol fieldbus interface for measuring force, tonnage, pressure, acceleration, vibration and torsion using piezoelectric sensors.

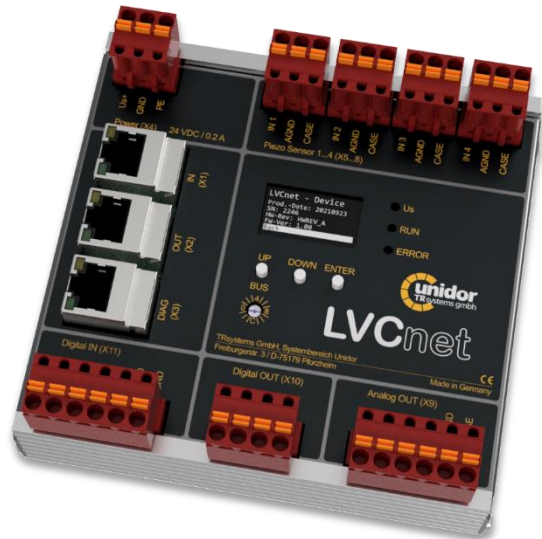
The high sampling rate and high resolution enable the evaluation of very fast processes for all types of piezo sensors.

The robust aluminum housing for DIN rail mounting allows the use of the LVCnet in harsh industrial environments and guarantees reliable and durable functionality.

The low drift of the input stages and the digital processing of the charge signal are very precise and therefore also allow quasi-static measurements.

The product has analog outputs that enables a use without a fieldbus. In this operating mode, the digitized charge signal is provided again as an analog signal ( $\pm 10$  V) for higher-level controllers for processing via a 16-bit DAC. Triggering in this operating mode is done via one of the 4 available digital inputs.

The integrated digital outputs make it possible to implement trigger monitoring, wire break monitoring and min/max monitoring of the sensor signals independently of a higher-level controller.



The status of the device and all I/O interfaces can be visualized via the integrated OLED display and the corresponding keys.

This offers the advantage that, for example, the commissioning engineer can check the device status, IP address, piezo inputs, digital inputs and outputs, and the analog outputs.

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## Technical data

### Load amplifier inputs 1...2/4 (X5...X8)

Resolution switching	Yes
Measuring range switchover	Switchable channel by channel
Minimum resolution	~0,03 pC/Digit (Scale = 1, Standard version) ~0,7 pC/Digit (Scale = 0, Standard version )
Measuring range	$\pm 2,147 \times 10^9$ Digit
Output data format	32 Bit IEEE Float
Output data format scaled to $\pm 10$ V	16 BIT INT
Sampling rate/integration rate	200 KSPS
Connector	Pluggable Phoenix 3 pol. MSTB, Spring clips to 2,5 mm <sup>2</sup>

### Digital inputs 1...4 (X11)

Switching threshold for Log „1“	$\geq 18$ V
Max. Input voltage	27 VDC
Connector	Pluggable Phoenix 6 pol. MSTB, Spring clips to 2,5 mm <sup>2</sup>

### Digital outputs 1...2 (X10)

Output level	Supply voltage $U_p$ (24 VDC)
Max. Strom	500 mA
Connector	Pluggable Phoenix 4 pol. MSTB, Spring clips to 2,5 mm <sup>2</sup>

### Analog outputs 1...4 (X9)

Output level / resolution	$\pm 10$ V / 16 Bit
Max. Current	10 mA
Connector	Pluggable Phoenix 6 pol. MSTB, Spring clips to 2,5 mm <sup>2</sup>

### Fieldbus IN/OUT (X1, X2)

Type	Ethernet 100 MBit/s, full duplex
Protocol	EtherCAT, PROFINET
S Connector	RJ45

### Diagnose (X3)

Type	Ethernet 100 MBit/s, full duplex
Protocol	TCP/IP
Connector	RJ45

### Power supply (X4)

Supply voltage $U_s$	24 VDC $\pm 10$ %
Current consumption ( $U_s$ )	$\leq 250$ mA by 24 V
Connector	Pluggable Phoenix 3 pol. MSTB, Spring clips to 2,5 mm <sup>2</sup>

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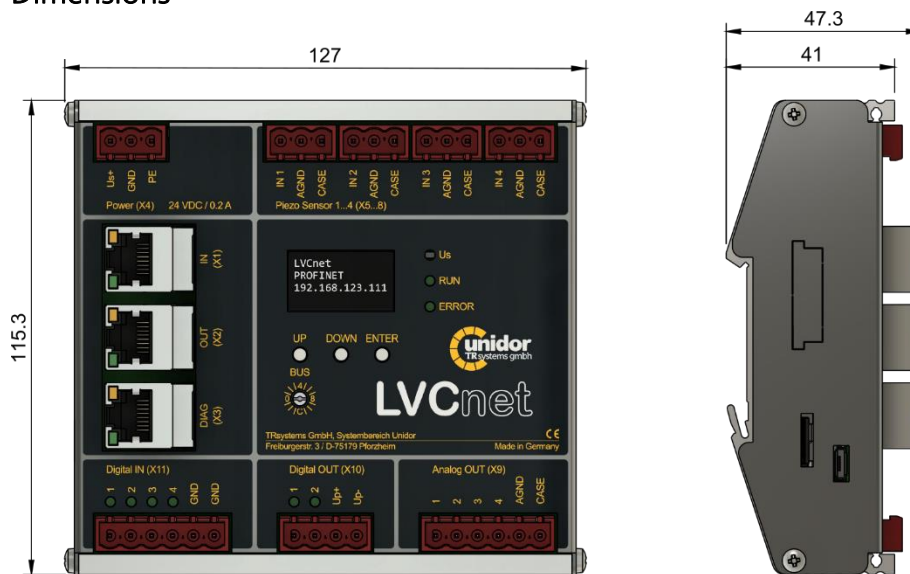
26.01.2024

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## Environmental conditions

Working temperature	0...+50 °C
Storage temperature	-20...+80 °C
Shock	25 G, 10 ms, ½ Sinus
Vibration IEC 68 part 2-6	10 G
Protection class	IP 20

## Dimensions



## Mechanics / Scope of delivery

Housing (LxBxH)	127 x 115.3 x 47.3 mm
Weight	550 g
Mounting	On standard mounting rail TS 35 EN 60 715
Counter plug	Included in delivery

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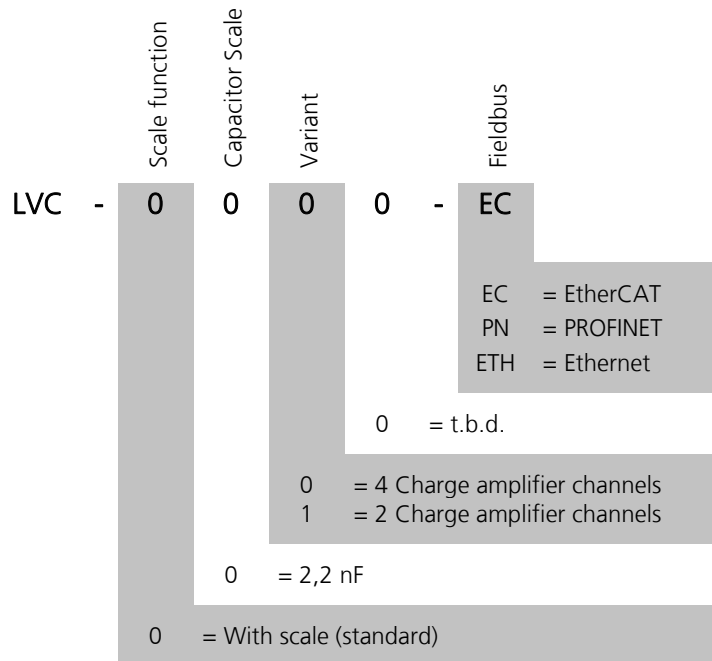
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## Variants



## Ordering information

Variant	Item number	Description
LVC-0000-EC	1040 51 04 0000	EtherCAT interface
LVC-0000-PN	1040 52 04 0000	PROFINET interface
LVC-0000-ETH	1040 53 04 0000	Digital / Analog I/Os
<i>Other variants on request</i>	<i>a.A.</i>	

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