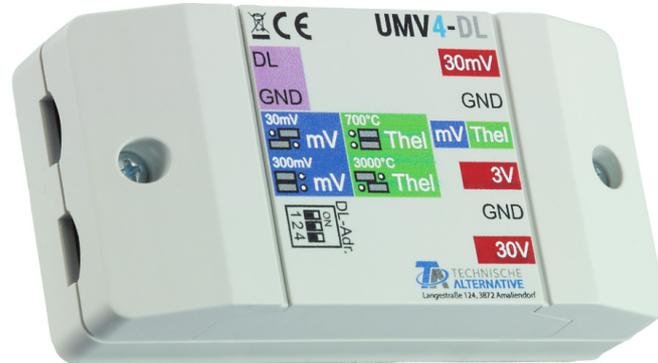


Universal measuring amplifier



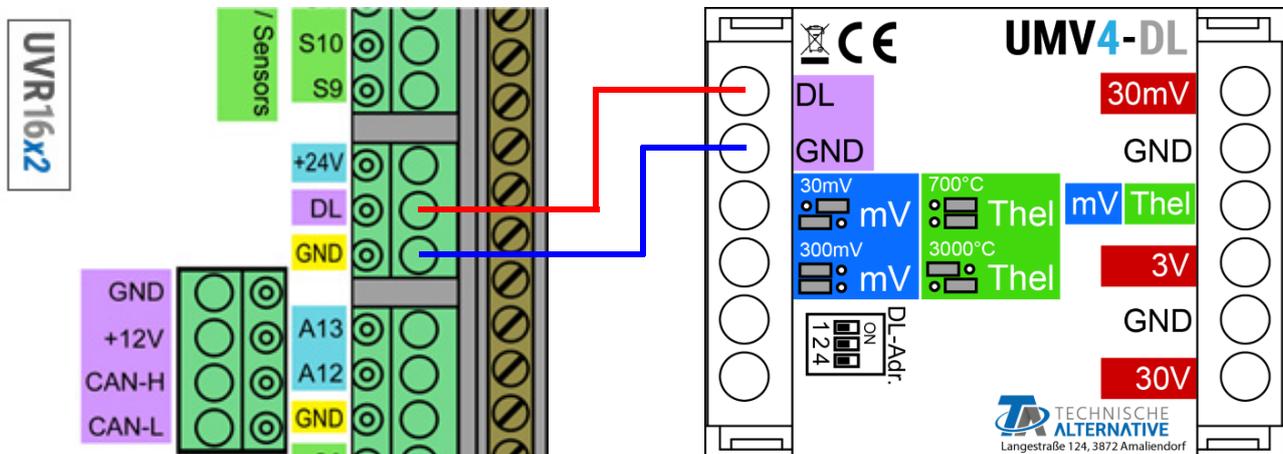
The UMV4-DL universal measuring amplifier measures voltage on **4** inputs with different measuring ranges and translates them for the **DL bus**.

Input 2 can be used to read out a **type K thermocouple** or to switch between two different readable voltage ranges.

Electrical connection

The DL bus is **not** protected against reverse polarity. **DL** and **GND** must be connected correctly.

Example: Connection to a UVR16x2 controller



Inputs

The UMV4-DL has 4 inputs:

1	30 mV	Input voltage 0-30 mV	Dimensionless number (0-30,000)
2	mV Thel	Input voltage 0-30 mV or 0-300 mV*	Dimensionless number (0-30,000)
		Type K thermocouple. Temperature range: -25 °C to 3200 °C or -25 °C to 750 °C*	Output in °C (-9999.9 °C if no thermocouple connected)
3	3 V	Input voltage 0-3 V	Dimensionless number (0-30,000)
4	30 V	Input voltage 0-30 V	Dimensionless number (0-30,000)

* The function of this input is variable; see chapter **Jumper settings for input 2** on Seite 2.

Jumper settings for input 2

The function and scaling of **input 2** can be changed by setting the plug-in jumpers on the PCB accordingly. Other inputs are not affected. The aim of adjustable scaling is to give a choice between a higher measuring range and higher resolution of the measurement.

	Input 2 measures 0-30 mV, output as a dimensionless number (0-30,000) at index 5.
	Input 2 measures 0-300 mV, output as a dimensionless number (0-30,000) at index 5.
	Input 2 measures temperatures (-25 °C – 3200 °C) using a type K thermocouple, output in °C at index 1.
	Input 2 measures temperatures (-25 °C – 750 °C) using a type K thermocouple, output in °C at index 1.

Index

The UMV4-DL transmits values to the data link via several indices.

Index	Description	Measuring range
1	Thermocouple temperature at input 2	-25 °C – 3200 °C or -25 °C – 750 °C*
2	PCB temperature (internal PT1000 sensor)	
3	Input 1 voltage	0-30 mV
4	Input 2 voltage	0-30 mV or 0-300 mV
5	Input 3 voltage	0-3 V
6	Input 4 voltage	0-30 V
7	Scaling jumper setting	Dimensionless 10 or 100
8	Thermocouple jumper setting	Yes/no (yes = thermocouple used)
14	Serial number of the module	
15	Software version (without decimal points)	

* See chapter **Jumper settings for input 2** on Seite 2

Programming in TAPPS2

In the following example, the default DL bus address 1 is used.

The diagram on the left shows a symbol for a DL input. The symbol is a rectangle with a pointed left side, containing the text "DL Input 1 (1 / 1)" and "Temperature". A line labeled "Designation" points to the symbol. Three lines point to the "1 / 1" part: "Index" points to the second "1", "Address" points to the "/" symbol, and "Input number" points to the first "1".

The screenshot on the right shows the "DL inputs - Input 1 - Temperature" configuration window. The "Drawing object" is "Input 1 - Temperature". The "Parameters" section is expanded to show the following settings:

Des. group	User def.
Designation	Temperature
Des. index	
General	
Type	Analogue
Address	1
Index	1
Unit	
Measured variable	Automatic
Unit	
Sensor correction	
Value at timeout	
Output value	

The most important settings can be found under **General**. Here, specify the DL bus address set on the UMV4-DL (default 1) as well as the index of the required input.

If the **Measured variable** is set to **Automatic**, no further settings are required under **Unit**.

The table in the **Index** section (Seite 2) provides information about which index belongs to which input.

DL address

The NME5-DL has a default address of 1. This address can be changed using the DIP switches in the device. The final address is made up of the default 1 and the sum of the DIP switches that are set to "ON".

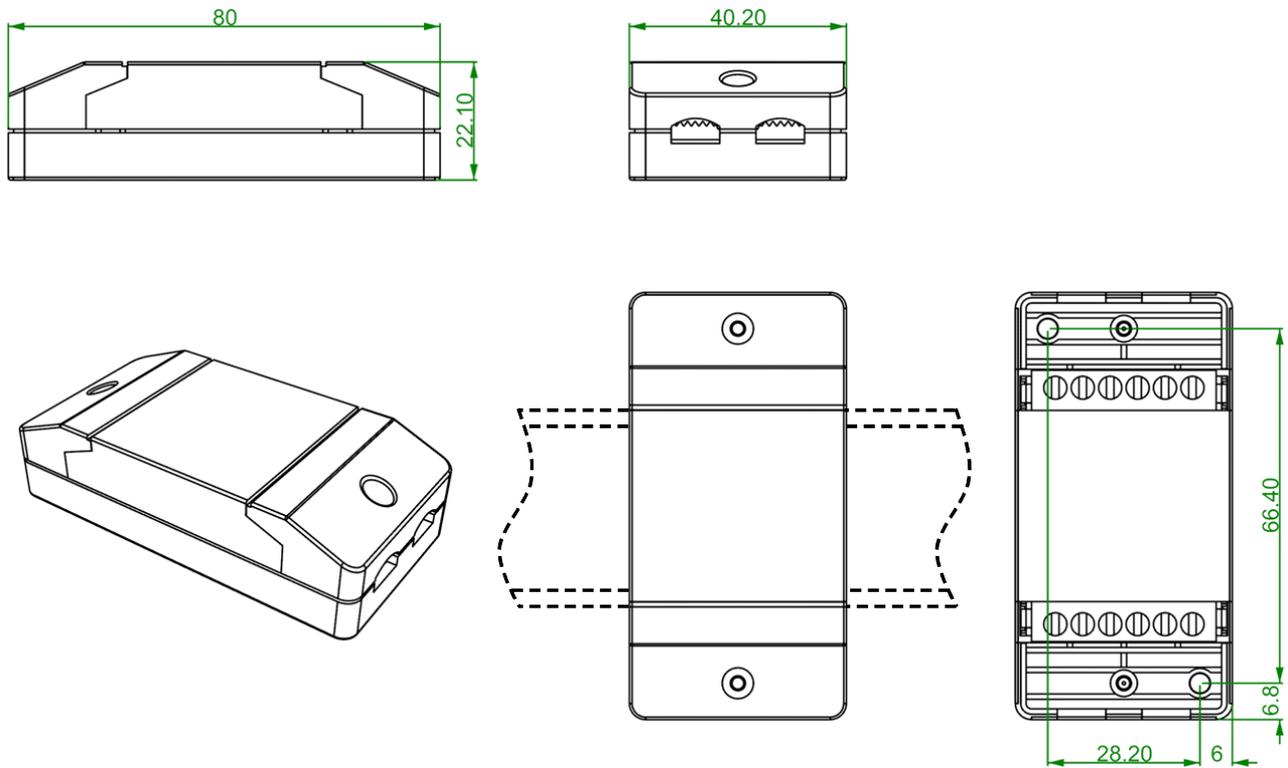
Example

Required address	6
Default setting	1
DIP switches 1 and 4	+ 5
Sum = address	= 6
DIP switches 1 and 4 must be set to ON .	



Position of DIP switches acc. to example

Dimensions in mm



Top-hat rail installation
(support rail TS35 to
standard EN 50022)

Technical data	
DL bus load	25 %
IP rating	IP40
Terminal capacity	max. 1.5 mm ²
Maximum measuring tolerance	±3 %
Max. ambient temperature	45 °C

Subject to technical modifications.

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