

# TEVOMET

Multi-channel temperature  
and voltage monitor/meter

TEVOMET TV16





# Product Description

TEVOMET is a multi-channel meter suitable for laboratory and industrial use. It features 16 independent channels with high precision

A/D converters with low noise, automatic offset cancellation and AC filtering.

## Features

Channel count	16 independent channels for temperature sensors and voltage measuring Each channel is galvanically isolated
Channel voltage range	Multiple order of magnitude input voltage range
Basic voltage ranges	$\pm 1.5\text{ V}$ and $\pm 150\text{ V}$
Most common temperature sensors	Thermocouples, built in precise cold junction compensation RTD sensors (Pt100, Pt1000) NTC thermistors up to 10 k $\Omega$
A/D converters resolution	16-bit precise A/D converters with low noise Automatic offset cancellation and AC filtering
Board dimension	230 x 170 x 55 mm
Cell connection	26-pin IDC connector (automotive-grade connectors on request)
Communication bus	USB RS-485 (XC2 protocol or MODBUS) Compatible with other Kolibrík modules
Inputs / outputs	Opto-isolated I/O with serial communication capability
Accessories	Power supply module USB to RS-485 interface Raspberry PI connection 3D-printed enclosures DIN-rail and wall-mount holders Custom cables Piggyback submodules for current ranges 4 - 20 mA Piggyback for voltage range 5 V Piggyback for voltage range 10 V



# Technical Parameters

Power supply	7 ... 33 V DC / 2.2 W max	
Dimensions	230 x 170 x 55 mm (without connector plugs)	
Mounting	4x mounting holes 2.7 mm, hex spacers with M2.5 thread	
Channel count	16 channels Multiple modules can be daisy-chained to measure hundreds of channels	
Channel voltage range	-5 ... +5 V *)	
Input impedance	1 MΩ	
Isolation	1 kV between channels and power supply + communication bus Additional isolation can be provided by isolating bus segments	
Sampling	Precise 24-bit ADCs All-channel sample rate up to 500 sps	
Accuracy	0.02% of range + 0.05% of reading	
Communication	USB RS-485 (XC2 protocol or MODBUS)	
Measurement resolution	0.001% of selected range for ≤ 1 ksps sampling	
Accuracy	Voltage	≤ 0.1% of range + 0.1% of reading
	Current	≤ 0.1% of range + 0.5% of reading
I/O	Optional digital optocoupler input and output, may work as additional serial line	
Ambient operating temperature	-40 °C to +85 °C	

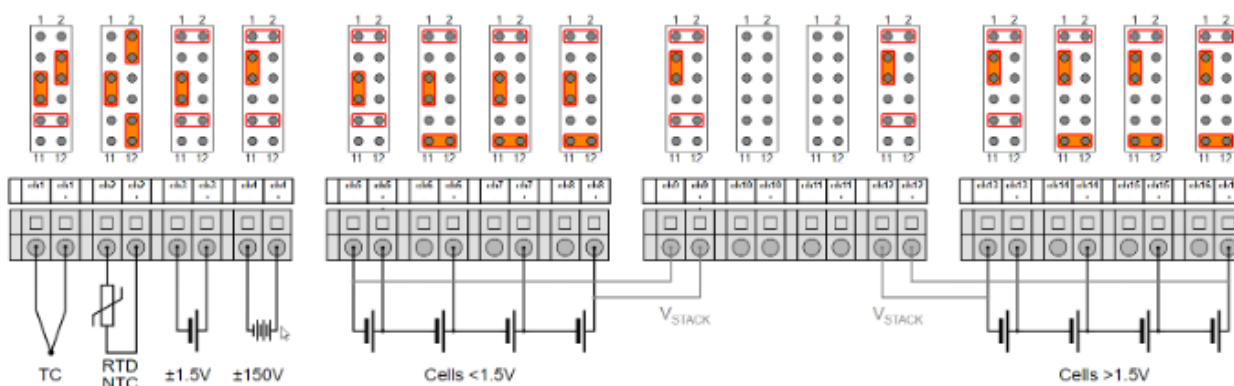
\*) Channels are organized by groups of 8 channels. Channels in one group can measure up to ±20 V if the sum of group channels does not exceed 20 V. So, one channel can measure up to ±20 V, if other channels in group are short-circuited. Note that adjacent channels and groups are chained together and are not independent.



# Applications

Fuel-cell stack monitoring	Experimental instrumentation
Electrolyzer monitoring	Bakeout controllers
Battery monitoring	Test stand automation

## Channel Connection and Configuration



Examples of connections and jumper setup



Block scheme of modules in 120-channel

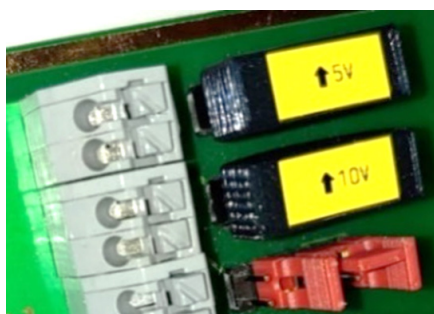


## Ordering Information

TEVOMET TV16	16 independent channels, individually configurable by jumpers, connection to internal clamps, RS-485, USB
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### Piggyback submodules for custom voltage ranges. Other ranges on request.

TVM-PB-5	Piggyback for voltage range 5 V
TVM-PB-10	Piggyback for voltage range 10 V
TVM-PB-CL	Piggyback submodules for current ranges 4 – 20 mA



Example of voltage range piggybacks

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