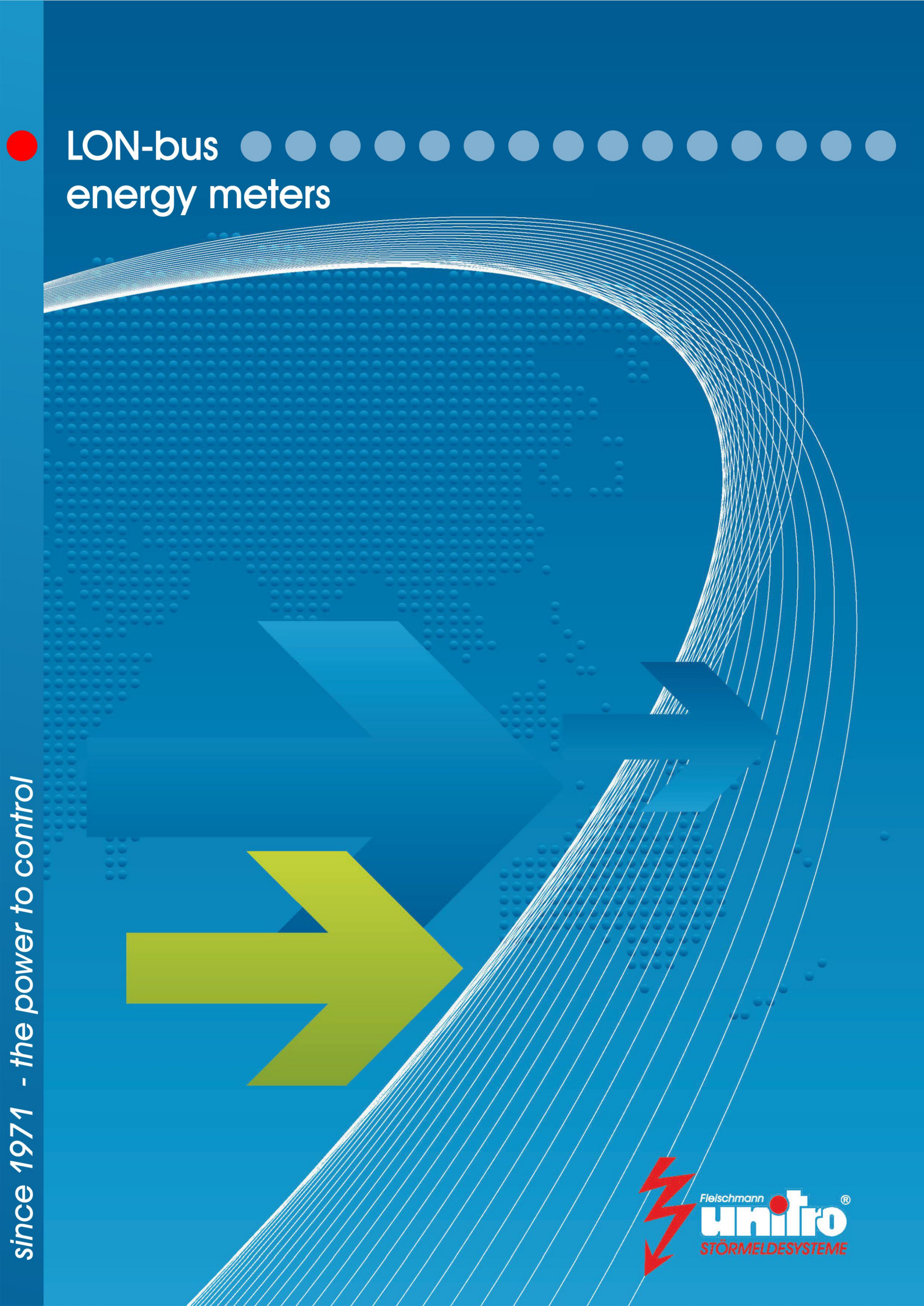
LON-bus energy meters



since 1971 - the power to control

Fleischmann unitro® STÖRMELDESYSTEME

Electronic active energy meters with LCD display (EMH)

Type designation:

Electricity meters with LON-BUS
to measure positive and optional negative active energy. In single or two collective version. Space-saving mounting due to compact design.
The direct measurement of the execution is following 3 - or 4 - phase busbars prepared.

Controls and displays
- 8 digit LCD display, including 3 decimal places, digit size: 4 x 6mm
- Mechanical button for ads calling

Parameterization
- Using LON-bus
- Locally adjustable CT ratio

Electrical characteristics
- Types of measurement active Energy, +A (with backstop), option: -A
- Energy counters max. 2 tariff register (T1 / T2) for each energy direction
- Secondary or primary impulse output
- Data retention in the absence of power at least 20 years in the EEPROM

Mechanical characteristics
- Snap-on housing (6M) 107,5 x 89,5 x 64,2mm, with fork busbar connection
- Connection screw-type terminals

current CT meter:	4mm²
current direct measurement meter:	16mm²
additional terminals:	2,5mm²

Approvals
- PTB-approval
- EC-type examination certificate according to Directive 2004/22/EC (MID = **M**easuring **I**nstrument **D**irective)

Options
- Battery for reading in the absence of power
- Calibration

Technical data:

1. Type of construction:
   snap-on housing 6M
   107,5 x 89,5 x 64,2mm
2. Degree of protection:
   IP20
3. Weight:
   approx. 400g
4. Climatic conditions:
   ambient and
   operating temperature: -25 to +55°C
   storage temperature: -40 to +70°C
   humidity: 95% not condensing
5. Connection:
   screw-type terminals
   current CT meter: 4mm²
   current direct measurement meter: 16mm²
   additional terminals: 2,5mm²
6. Display:
   8 digit LCD display,
   including 3 decimal places
   digit size: 4 x 6mm
7. Buttons:
   for display call
8. Energy counters:
   max. 2 tariff register (T1 / T2) for each energy direction
9. Current:
   CT meter: 5||1 A / 1 (6) A
   direct measurement meter: 5 (65) A
10. Starting current:
    CT meter: 2mA
    direct measurement meter: 20mA
11. Data retention in the absence of power:
    at least 20 years in the EEPROM
12. Types of measurement:
    active Energy, +A (with backstop)
13. Frequencies:
    50Hz, 60Hz, 16,7Hz
14. Voltage direct measurement meter:
    4 wire-version: 3x290/500V; 3x230/400V; 3x63/110V; 3x58/100V
    3 wire-version: 3x500V; 3x400V; 3x230V; 3x110V, 3x100V
    2 wire-version: 230V, 110V, 100V; 63V; 58V
15. Voltage CT meter:
    4 wire-version: 3x290/500V; 3x230/400V
    3 wire-version: 3x500V; 3x400V; 3x230V
    2 wire-version: 230V
16. Accuracy:
    class 1 or class 2 according to IEC 62053-21
    class B or A according to EN 50470-1,-3
17. Power consumption per phase:
    - voltage path: < 2,0VA / 1,0W
    - current path direct measurement meter: < 2,5VA
    - current path CT meter: < 0,5 VA
18. Transmission:
    LON FTT10A two wire (twisted-pair),
    78kbps, max. 2,7km
19. Approvals:
    PTB-approval
    EC-type examination certificate according to directive 2004/22/EC
    (MID = **M**easuring **I**nstrument **D**irective)
20. Parameterization:
    using LON-bus
21. EMC, immunity of interference:
    isolation: 4 kV AC, 50 Hz, 1 min
    EMC: 4 kV, pulse 1,2/50 µs, 2 Ω
    ISO: 6 kV, pulse 1,2/50 µs, 500 Ω
    10 V/m (under load)

Electronic active energy meters with LCD display (Gossen)

The electronic active energy meter records energy consumption in 2-wire, 3-wire and 4-wire AC systems, as well as in distorted systems. The assembly is independent of position on hat-rail according to EN 50022.
For the third party billing, the meter can be calibrated if necessary. The potential free pulse output for energy supply is used for remote transmission of impulses.
Via LON-bus meter readings, measurements and additional information directly from settlement-planning systems, building management systems and controls are read.

		kWh - meters				
	Types:	**U1281**	**U1289**	**U1381**	**U1387**	**U1389**
Alternating current	2-wire	x		x		
Three-phase	3-wire				x	
	4-wire		x			x
Voltage (V)	direct	230	400	230	400/500	400
	Converter	-	100	-	100	100
	VT		(prog.)		(prog.)	(prog.)
Current (A)	direct	65	65	-	-	-
	Converter	-	-	5//1	5//1	5//1
	CT			(prog.)	(prog.)	(prog.)
Impulse output		S0 (230V)	S0 (230V)	S0 (230V)	S0 (230V)	S0 (230V)
	Pulses	(programmable)				
Interface	**LON FTT**	**(x)**	**(x)**	**(x)**	**(x)**	**(x)**
Display installation error		x	x	x	x	x
Able for calibration		x	x	x	x	x
Accuracy	Class	1	1	1	1	1
Active power indicator		x	x	x	x	x
Multi-function. Execution with add. measurement of	U,I,P,Q S,PF,f	(x)	(x)	(x)	(x)	(x)
Type German approval	PTB	x	x	x	x	x
	BEV					
	metas					
	CMI					

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Variants LON bus energy meters

Type	Signal- / supply voltage		
EMH DIZ direct 2-wire			
EMH DIZ direct 3-wire			
EMH DIZ direct 4-wire			
EMH DIZ CT meter 2-wire			
EMH DIZ CT meter 3-wire			
EMH DIZ CT meter 4-wire			
Option battery			
Option calibration			
Gossen U1281 (2-wire) direct			
Gossen U1289 (4-wire) direct			
Gossen U1381 (2-wire) CT meter			
Gossen U1387 (3-wire) CT meter			
Gossen U1389 (4-wire) CT meter			

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