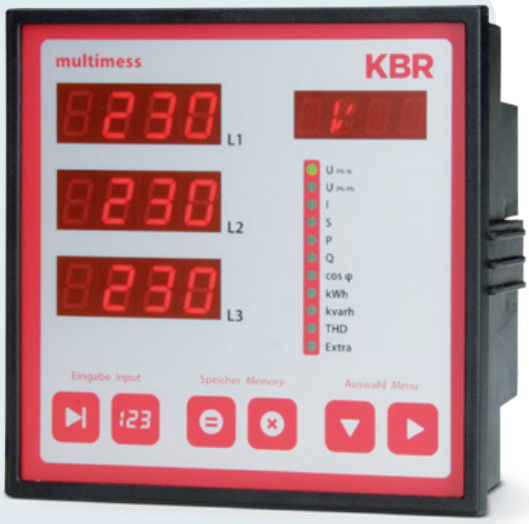
multimess F144 LED

Housing dimensions (H x W x D in mm)	144 x 144 x 60
Data display	LED
Interfaces	KBR eBus Modbus Profibus * KBR eBus TCP * Modbus TCP *

* depending on the respective device type.

Also available with NRTL certification for USA and Canada



Three-phase network measuring device

Highlights

- → Measurement accuracy in accordance with DIN EN 61557-12
- → Voltage quality in accordance with IEC 61000-4-30
- → Optimum readability thanks to bright LED displays
- → Current transformer input for N conductor measurement
- ↖ NRTL-certified versions available for USA and Canada
- → Narrow mounting depth of only 60 mm

An overview of the **technical details** can be found on pages 30 to 33.

The electronic network measuring devices of the **multimess F144 LED** series measure and monitor all important parameters in the three-phase network and are available in a wide range of performance classes. The load profile of the measured system is stored for all four quadrants for 366 days. The integrated event memory can log up to 1500 events, such as limit violations, power failures, voltage dips and much more.

There are measuring devices with NRTL approval for the USA and Canada.

With our energy measuring devices, efficient energy management is very easy. We will be happy to advise you personally.

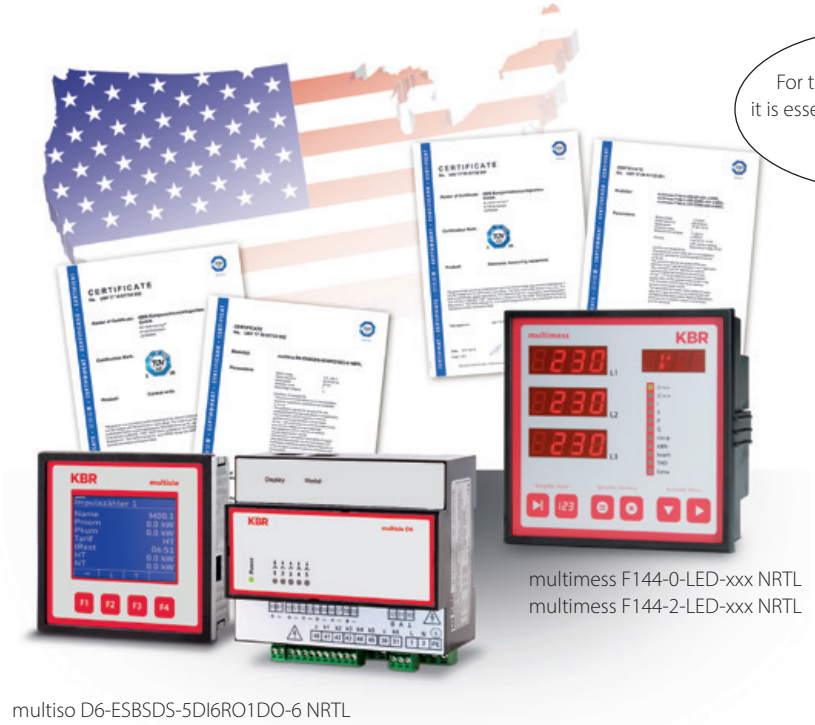
Product advice:
+49 (0) 9122 63730

info@kbr.de

Device types multimess F144…

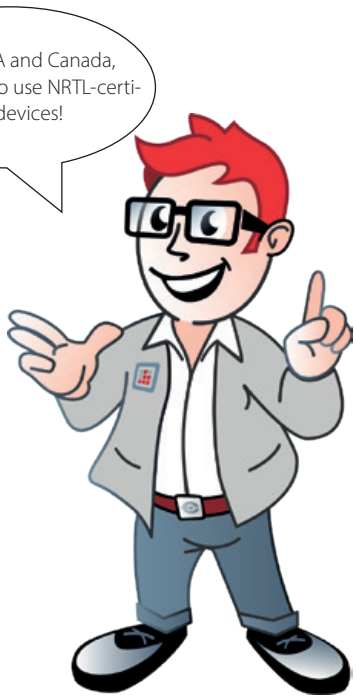
		…-0-LED-EP-2RO1DO-US1 / -US5	…-0-LED-ESMS-2RO1DO-US1/ -US5	…-0-LED-ESMSDP-2RO1EDO-US1 / -US5	…-0-LEDESMSET-2RO1DO-US1 / -US5	…-2-LED-ESMSMT-2RO1DO-US1 / -US5	…-2-LED-ESMS-2RO1DO3AO-US1 / -US5	…-2-LED-ESMSDP-2RO1DO3AO-US1 / -US5	…-2-LED-ESMSET-2RO1DO3AO-US1 / -US5	…-2-LED-ESMSMT-2RO1DO3AO-US1 / -US5	…-0-LED-EP-2RO1DO-US1 / -US5 NRTL	…-2-LEED-ESMS-2RO1DO-US1 / -US5 NRTL	…-2-LED-ESMSET-2RO1DO-US1 / -US5 NRTL	…-2-LED-ESMSMT-2RO1DO--US1 / -US5 NRTL	…-2-LED-ESMS-2RO1DO3AO-US1 / -US5 NRTL	…-2-LED-ESMSET-2RO1DO3AO-US1 / -US5 NRTL	…-2-LED-ESMSMT-2RO1DO3AO-US1 / -US5 NRTL
Pulse input	1 (P+/Q+)	■	–	–	–	–	–	–	–	–	■	–	–	–	–	–	–
	1 (P+/Q+/P-/Q-)	–	■	■	■	■	■	■	■	■	–	■	■	■	■	■	■
Digital inputs		–	[2] ■	[2] ■	[2] ■	[2] ■	[2] ■	[2] ■	[2] ■	[2] ■	–	[2] ■	[2] ■	[2] ■	[2] ■	[2] ■	[2] ■
Analog outputs		–	–	–	–	–	3	3	3	3	–	–	–	–	3	3	3
Relay outputs		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
KBR eBus RS485		[1] ■	■	■	■	■	■	■	■	■	[1] ■	■	■	■	■	■	■
Modbus RS485		–	■	■	■	■	■	■	■	■	–	■	■	■	■	■	■
KBR eBus TCP/IP		–	–	–	■	–	–	–	■	–	–	–	■	–	–	■	–
Modbus TCP/IP		–	–	–	–	■	–	–	–	■	–	–	–	■	–	–	■
Profibus DP		–	–	■	–	–	■	–	–	–	–	–	–	–	–	–	–
NRTL certification		–	–	–	–	–	–	–	–	–	■	■	■	■	■	■	■
Power supply		US1: 1 to 240 V +/- 10% AC/DC 50/60 Hz, 8 VA, 4 W															
Power supply		Optional US5: 22.5 to 64 V +/- 10% AC/DC 50/60 Hz, 8 VA, 4 W										–	–	–	–	–	–

■ Standard – Not available [1] Bus address (1) permanently set [2] 1 synchronization, 1 HT/LT tariff

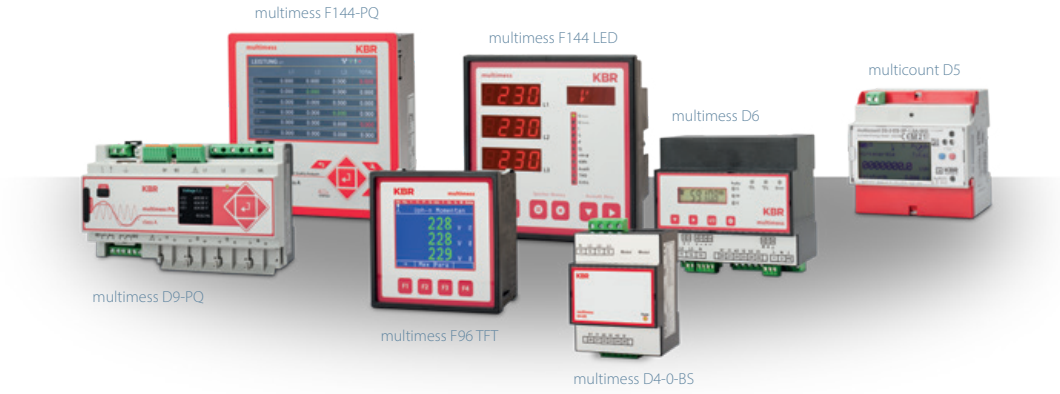


multiso D6-ESBSDS-5DI6RO1DO-6 NRTL

multimess F144-0-LED-xxx NRTL
multimess F144-2-LED-xxx NRTL



multimess Device matrix



Device types multimess …

			DIN rail				
			…D4-0-BS	… D6-1-LED-ESMS-2DI1DO-US1	…D9-PQ-3-LCD-MSMT-US8	…F96-0-TFT-1DO-US1 (US5)	…F96-0-TFT-1DO-R1-US1 (US5)
MEA-SURED VALUES	Voltage	U Ph - N (L1 - L3) | U Ph - Ph	■|■	■|■	■|■	■|■	■|■
	Current	I Ph (L1 - L3)	■	■	■	■	■
	Average current value	I Ph (L1 - L3)	■	■	■	■	■
	Neutral conductor current	I_N | I_N-average	–	■	■|■	■|■	■|■
	Apparent power	S Ph (L1 - L3) | S total	■	■	■|■	■|■	■|■
	Active power	P Ph (L1 - L3) | P total	■	■	■|■	■|■	■|■
	Fundamental reactive power ind./cap.	Q (L1 - L3) | Q1 overall; total	■	■	–	■|■	■|■
	Fundamental and harmonic reactive power Q	Q (L1 - L3) | Q1 overall; total	–	–	■|■	–	–
	Frequency	f (L1)	■	■	■	■	■
	Rotary field control:	Rotary field display in degrees	–	–	■	■	■
	Phasor diagram	Graphic display	–	–	–	■	■
	Power factors ind./cap.	Fundamental component cosφ (L1 - L3)	■	–	■	■	■
		Total power factor λ (L1-L3) | λ total	–	■|■	■|■	■|■	■|■
	Electrical energy	Continuous counter for active energy P+ | P-	■ –	■|■	■|■	■|■	■|■
		Continuous counter for reactive energy Q+ | Q-	■ –	■|■	■|■	■|■	■|■
	Tariffs	HT / NT	–	–	–	■	■
MEMORY	Load profile memory P+ | P- | Q+ | Q-	Ring buffer for 40 days	–	■	–	–	–
		Ring buffer for 365 days	–	–	■	–	–
	Daily, active and reactive energy	P+ | P- | Q+ | Q-	–	■	■	–	–
	Maximum indicator function (min./max.)		–	■	■	–	–
	Operation logbook		–	■	–	–	–
	Event memory		–	■	–	–	–
PQ ANALYSIS	Harmonics	THD-U (L1 - L3) %	–	–	■	■	■
		Sum of current harmonics Id (L1 - L3) A	–	–	■	■	■
		3rd - 63rd Harmonic. (L1 - L3) voltage %	–	–	–	■	■
		3rd - 50th (180th) Harmonic. (L1 - L3) voltage %	–	–	■	–	–
		3rd - 63rd Harmonic. (L1 - L3) current A	–	–	–	■	■
		3rd - 50th (180th) Harmonic. (L1 - L3) current A	–	–	■	–	–
	Bar chart	THD-U | THD-I	–	–	–	■	■
	Oscilloscope / pointer diagram	Graphic display	–	–	–	■	■
	Oscilloscope recorder	With trigger function	–	–	■	–	–
	RMS recorder	With trigger function	–	–	■	–	–
	Event recorder		–	–	■	–	–
	Permanent recorder		–	–	■	–	–
	Software includes reporting according to EN 50160		–	–	■	–	–
	All measured values in accordance with class A		–	–	■	–	–

■ ■ ■ Standard – Not available

Switchboard installation 96 x 96 mm												Switchboard installation 144 x 144 mm									
…F96-0-TFT-ESMS-1DO-US1 (US5)	…F96-0-TFT-ESMS-1DO-R1-US1 (US5)	…F96-2-TFT-ESMS-2RO1DO-US1 (US5)	…F96-2-TFT-ESMS-2RO1DO-R1-US1 (US5)	…F96-2-TFT-ET-2RO1DO-US1 (US5)	…F96-2-TFT-ET-2RO1DO-R1-US1 (US5)	…F96-2-TFT-ESET-2RO1DO-GW-US1 (US5)	…F96-2-TFT-ESET-2RO1DO-R1-GW-US1 (US5)	…F96-2-TFT-MS-2RO1DO-US1 (US5)	…F96-2-TFT-MS-2RO1DO-R1-US1 (US5)	…F96-2-TFT-MT-2RO1DO-US1 (US5)	…F96-2-TFT-MT-2RO1DO-R1-US1 (US5)	…F144-0-LED-EP-2RO1DO-US1 (US5)	…F144-2-LED-ESMS-2RO1DO-US1 (US5)	…F144-2-LED-ESMS-2RO1DO3AO-US1 (US5)	…F144-2-LED-ESMSDP-2RO1DO-US1 (US5)	…F144-2-LED-ESMSDP-2RO1DO3AO-US1 (US5)	…F144-2-LED-ESMSET-2RO1DO-US1 (US5)	…F144-2-LED-ESMSET-2RO1DO3AO-US1 (US5)	…F144-2-LED-ESMSMT-2RO1DO-US1 (US5)	…F144-2-LED-ESMSMT-2RO1DO3AO-US1 (US5)	…F144-PQ-3-TFT-MSMT-US8
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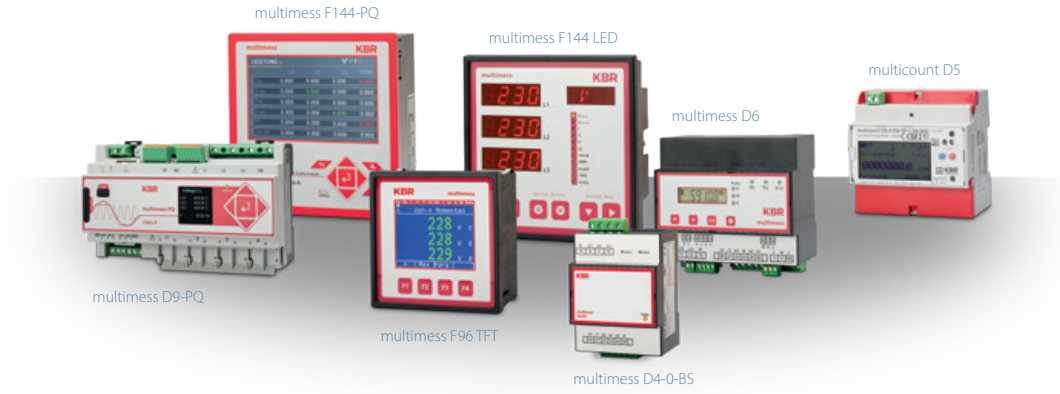
multimess Device matrix



Device types multimess …

		DIN rail				
		…D4-0-BS	… D6-1-LED-ESMS-2DI1DO-US1	…D9-PQ-3-LCD-MSMT-US8	…F96-0-TFT-1DO-US1 (US5)	…F96-0-TFT-1DO-R1-US1 (US5)
HOUSING	DIN rail 4 TE	■	–	–	–	–
	DIN rail 6 TE	–	■	–	–	–
	DIN rail 9 TE	–	–	■	–	–
	Front panel mounting 96 x 96 mm	–	–	–	■	■
	Front panel mounting 144 x 144 mm	–	–	–	–	–
DISPLAY	LCD	–	■	■	–	–
	TFT	–	–	–	■	■
	LED	–	–	–	–	–
VOLTAGE MEASURING INPUTS	3 x 30 … 400 … 480 V AC	■	■	–	–	–
	3 x 5 … 500 … 600 V AC	–	–	–	■	■
	3 x 0 ... 690 V AC	–	–	■	–	–
CURRENT MEASURING INPUTS	Current transformer 3 x 1 (5) A	■	■	–	■	–
	Current transformer 4 x 1 (5) A	–	–	■	–	–
	Rogowski band 3 x 1000 A	–	–	–	–	■
	Rogowski band 3 x 3000 A	–	–	–	–	■
INTERFACES	RS 485 KBR eBus configuration interface	–	–	–	–	–
	RS 485 KBR module bus	■	–	–	–	–
	RS 485 Modbus	–	■	■	–	–
	RS 485 KBR eBus	–	■	–	–	–
	RS 485 Profibus DP	–	–	–	–	–
	TCP/IP Modbus	–	–	■	–	–
	TCP/IP eBus	–	–	–	–	–
	TCP/IP eBus and RS 485 with gateway function	–	–	–	–	–
OUTPUTS	2 x relay outputs	–	–	–	–	–
	1 x S0 digital output	–	■	–	■	■
	3 x analog output 0 (4) – 20 mA, 0 (2) – 10 V	–	–	–	–	–
POWER SUPPLY	Via measuring voltage	■	–	–	–	–
	US1: 100 to 240 V; AC/DC; 50/60 Hz	–	■	–	■	■
	US5: 22.5 to 64 V; AC/DC; 50/60 Hz	–	–	–	□	□
	US8: 90 to 264 V; AC; 50/60 Hz; 100 to 350 V DC	–	–	■	–	–

■ ■ ■ Standard □ □ Optional – Not available

VVersion: January 2024. Subject to change..

Switchboard installation 96 x 96 mm													Switchboard installation 144 x 144 mm									
… F96-0-TFT-ESMS-1DO-US1 (US5)	…F96-0-TFT-ESMS-1DO-R1-US1 (US5)	…F96-2-TFT-ESMS-2RO1DO-US1 (US5)	…F96-2-TFT-ESMS-2RO1DO-R1-US1 (US5)	…F96-2-TFT-ET-2RO1DO-US1 (US5)	…F96-2-TFT-ET-2RO1DO-R1-US1 (US5)	…F96-2-TFT-ESET-2RO1DO-GW-US1 (US5)	…F96-2-TFT-ESET-2RO1DO-R1-GW-US1 (US5)	…F96-2-TFT-MS-2RO1DO-US1 (US5)	…F96-2-TFT-MS-2RO1DO-R1-US1 (US5)	…F96-2-TFT-MT-2RO1DO-US1 (US5)	…F96-2-TFT-MT-2RO1DO-R1-US1 (US5)	…F144-0-LED-EP-2RO1DO-US1 (US5)	…F144-2-LED-ESMS-2RO1DO-US1 (US5)	…F144-2-LED-ESMS-2RO1DO3AO-US1 (US5)	…F144-2-LED-ESMSDP-2RO1DO-US1 (US5)	…F144-2-LED-ESMSDP-2RO1DO3AO-US1 (US5)	…F144-2-LED-ESMSET-2RO1DO-US1 (US5)	…F144-2-LED-ESMSET-2RO1DO3AO-US1 (US5)	…F144-2-LED-ESMSMT-2RO1DO-US1 (US5)	…F144-2-LED-ESMSMT-2RO1DO3AO-US1 (US5)	…F144-PQ-3-TFT-MSMT-US8
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