

# multimes D4-0-BS

Housing dimensions  
(H x W x D in mm)

**90 x 71 x 61**

Data display

**LCD\***

Interface

**KBR  
module bus**



\* optional F96-DS display

## Three-phase black box measuring point

- Highlights**
- Affordable black box measuring point for energy data management
  - No external energy supply required
  - Space saving through small size
  - Pluggable RJ 12 module bus interface

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

The **multimes D4** is a multimeter for DIN rail mounting. The **multimes D4** can measure one three-phase or three single-phase alternating current outputs.

The bus connection between the modules is established via a supplied and ready-made RJ12 cable. This eliminates the time-consuming wiring of the bus connection.

A connection for the power supply is not necessary, as the power supply for the measuring device's own requirements is provided by the measuring voltage. If the **multimes D4** is connected to the **multisio D6** a load profile memory for all four measurement quadrants (P+|P-|Q+|Q-) can be stored in the central storage unit. The interface to the eBus is via the **multisio D6**. Five measuring modules can be connected to each central storage module.

## Combination possibilities

DEVICE TYPES	multimes D4-0-BS with multimes F96-DS <sup>1</sup>	multimes D4-0-BS with multisys D2-BSES	multimes D4-0-BS with multisio D6 and multisio F96-DS
LCD display 96 x 96	■	–	■
Number of measuring modules	10 per display	No limitation Power supply unit required from the 12th, 24th, 36th, nth measuring module. Up to 12 measuring modules can be operated per power supply unit or gateway.	5 per multisio D6
eBUS   eBUS TCP	–   –	■   ■ <sup>2</sup>	■   ■ <sup>3</sup>
Instantaneous value display Display   eBUS	■   –	–   ■	■   ■
Load profile memory Display   eBUS	–   –	–   –	–   ■
Continuous counter Display   eBUS	■   –	–   ■ <sup>4</sup>	■   ■

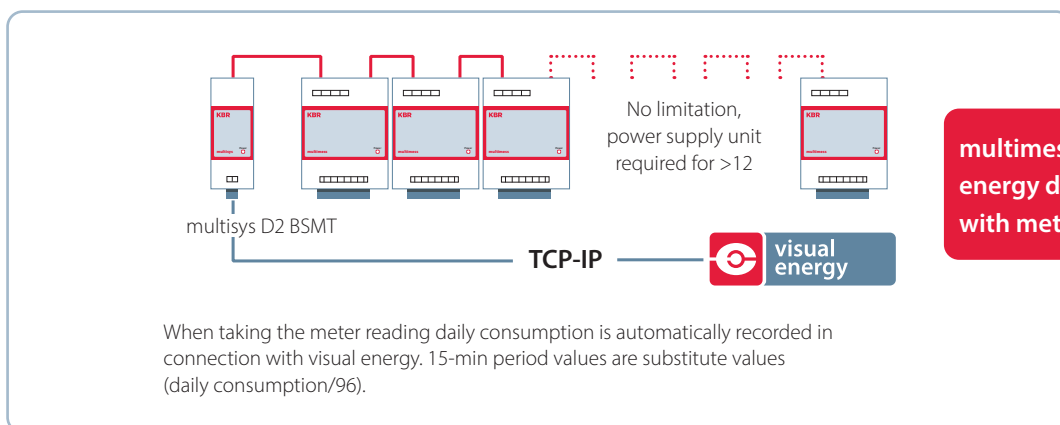
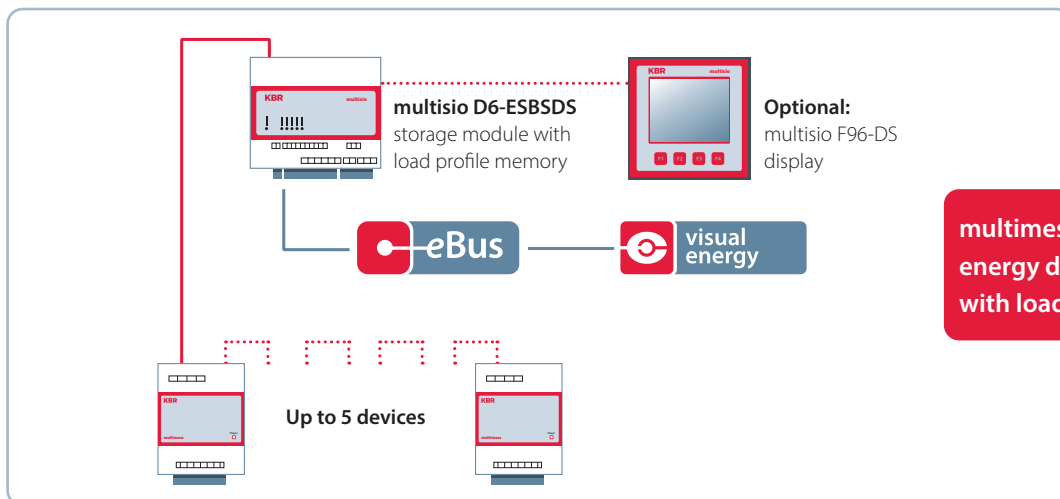
■ Standard – Not available

<sup>1</sup> For operation of the display, an additional power supply unit is needed, e.g. the multisys D2-BSES.

<sup>2</sup> For use of the multisys D2-BSET gateway instead of D2-BSES.

<sup>3</sup> Additional gateway multisys D2-ESET/MSMT required.

<sup>4</sup> In connection with visual energy, daily consumption is automatically recorded. 15-min period values are substitute values (daily consumption/96)



# multimes Device matrix



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)

## Device types multimes ...

MEASURED 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 $\cos\phi$ (L1 - L3)	■	-	■	■	■
		Total power factor $\lambda$ (L1 - L3)   $\lambda$ 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 $I_d$ (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		-	-	■	-	-	

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

# multimes

## Device matrix



### Device types multimes ...

		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 50 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	-	-	■	-	-

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

multimes D4

multimes D6

multicount D5

multimes D9-PQ

multimes F144-PQ

multimes F96

multimes F144