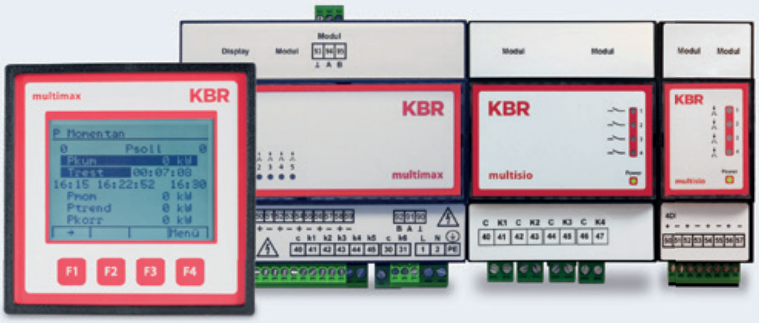
multimax

Housing dimensions (H x W x D in mm)	**90 x 105 x 61**
Data display	**LCD** *
Interface	**KBR eBus** **KBR module bus** **Modbus** **Display**



* via display multimax F96-DS

Energy optimization system with trend calculation function

Highlights

- → Current and gas supply optimization
- → Target value tracking for monthly and annual power price
- → Optimize power consumption trends and instantaneous value
- → Prewarning contact for alarm and emergency shut-down
- → Integrated temperature target value timer programs
- → Optimize standard, thermal, and controllable devices
- → Serial interface with eBus and Modbus protocol

An overview of the **technical details** is provided on page 12.

You may not be able to fully eliminate energy costs for power calculation, but you can reduce them significantly.

Even a single carelessly produced power peak can send energy costs skyrocketing with far-reaching consequences. Whether the goal is to reduce power consumption or create a state of non-typical network usage or use an individual network charge, the **multimax** energy optimization system monitors, controls, and optimizes the energy consumption behavior of connected electricity and gas consumers. While optimizing the operating process, the consumer properties and energy supply conditions are taken into account.

Note: Expansion modules are required for switching and feedback from devices.
Communication between the central unit and relay module is carried out via the module bus or the network.

Input and output configuration

DEVICE TYPE		**multimax** D6-ESMSBSDS-5DI6RO1DO-5
INPUTS	**Pulse inputs** (working and synchronization pulse)	5
	Target value switching (for floating contact)	3
OUTPUTS	**Relay outputs**	5 non-floating
	Maximum prewarning relay	yes
SERIAL INTERFACES	**KBR eBus**	yes
	KBR module bus	yes
	Modbus	yes
	KBR Display	yes
SOFTWARE SUPPORT	**Intelligent gateway**	yes
	visual energy	yes
POWER SUPPLY	**Operating voltage**	85 – 265 V AC/DC, 50/60 Hz
	Power consumption	15 VA
MECHANICAL DATA	**Central unit:** Modules and dimensions in mm (H x W x D)	6 modules (90 x 105 x 61 mm)
	Weight	Approx. 650 g
	Display	96 x 96 mm (visible 92 x 92 mm)

Other Features

- Optimization is better than switching: **multimax** can switch consumers according to demand thanks to its **analog signal outputs**
- Can be used in any industry and in plants of any size
- **Integrated programs** ensure that non-typical network usage is maintained or that the timer controls for systems work
- The feedback allows devices to be controlled optimally with **fewer switching operations**
- The instantaneous power consumption of the consumers is displayed, **increasing savings potential** and **reducing the number of interventions in the production process**
- By **linking multiple feedback values,** even sensitive consumers can be included in the optimization process (e.g., large thermal devices)
- Easy **visualization** thanks to the **intelligent Gateway**

multimax Technical details

DEVICE TYPE	**multimax** D6-ESMSBSDS-5DI6RO1DO-5
MENU AND STATUS DISPLAYS	Energy: W_{act} Trend power: P_{trend} Instantaneous power: P_{act} Cumulative power: P_{cum} Corrective power: P_{corr} Measurement period average value: P Maximum daily and monthly values: P_{day} and P_{mon} Switching operations, error and alarm messages
OPTIMIZATION LINES	32 lines (up to 80 devices)
EXPANSION MODULES	**Management of up to 20 modules**
SWITCHING PERFORMANCE	**Self-optimizing** (circular switching of equal stages)
	The priority can be adjusted for each optimization output
PERIOD DURATION	**1, 10, 15, 30 or 60 minutes**
SYNCHRONIZATION	**Digital input, internal, bus, tariff**
OPTIMIZATION CRITERIA	**Target value control** 3 target values can be programmed freely
	Target values can be controlled using timer programs
	Degree of optimization in %
	Stage power and start-up probability
	Priority switching (circular switching with the same priority)
	Measurement period time-out, minimum switch-on time, minimum and maximum switch-off time
	Non-typical network usage
MONITORING FUNCTIONS	**Maximum prewarning if power is exceeded**
	Automatic emergency shutdown of selected devices in the event of malfunction
	Target value tracking if power value is exceeded
	Counter and synchronous pulse monitoring
	Period-independent monitoring of maximum instantaneous power
	Communication monitoring between central unit and substation
DISPLAY	**LCD** (via **multimax F96-DS** display)
INSTANTANEOUS POWER MEASUREMENT	**Pulse input**
	Pulse summation function for multiple counters
	Direct measurement with multimess D4 additional module (transformer measurement)

Version: February 2021. Subject to change.

DEVICE TYPE	**multimax** D6-ESMSBSDS-5DI6RO1DO-5	
MEMORY	**Load profile memory for 40 days at 15 minute measurement periods**	
	Infinite active energy memory for high and low tariffs	
	2045 switching operation entries	
	4096 event memory entries (power failures, errors, programming actions, etc.)	
	512 operation logbook entries	
	512 timer program entries	
	Memory can be read on the device | | memory can be read out via KBR eBus	
TIME FUNCTIONS	**10 internal timer programs** (global eBus master timer programs are processed)	
	Calendar function	
	Daylight saving time	
	Leap year adjustment	
PASSWORD PROTECTION	**Digit code**	
LINE PARAMETERS	**Line name**	
	Power	0 to 9999 kW
	Priority	01 to 32
	Type	Standard, thermal device, controllable
	on switch-off	open, closed
	active	yes, no
	Mode	Auto, On, Off
	Feedback type	Enable, manual_On, manual_Off, priority, emergency_On, emergency_Off
	Switch off in event of error	yes, no
	Period time-out	0 to 999 minutes
	Lead time	0 to 999 seconds
	Run-on time	0 to 999 seconds
	Minimum on time/day	0 to 24 hours
	Minimum on time	0 to 999 minutes
	Minimum down time	0 to 999 minutes
	Maximum off time	0 to 999 minutes

multimax expansion modules

multisio D4-4RO-ISO

Outputs: 4 x relays, isolated

Energy supply: About the module bus

Connection to energy optimization:
About the module bus

Construction type:
DIN rail installation, 4 horizontal pitch

Item no.: 14202

multisio D6-ESBS-4RO-ISO

Outputs: 4 x relays, isolated

Energy supply: About the module bus

Connection to energy optimization:
Via Modbus or eBus

Construction type:
DIN rail installation, 6 horizontal pitch

Item no.: 24444

multisio D2-4RO

Outputs: 4 x relays, non-floating

Energy supply: About the module bus

Connection to energy optimization:
About the module bus

Construction type:
DIN rail installation, 2 horizontal pitch

Item no.: 14190

multisio D2-2AO

Outputs: 2 x analog (0–20 mA, 4–20 mA, 0–10 V)

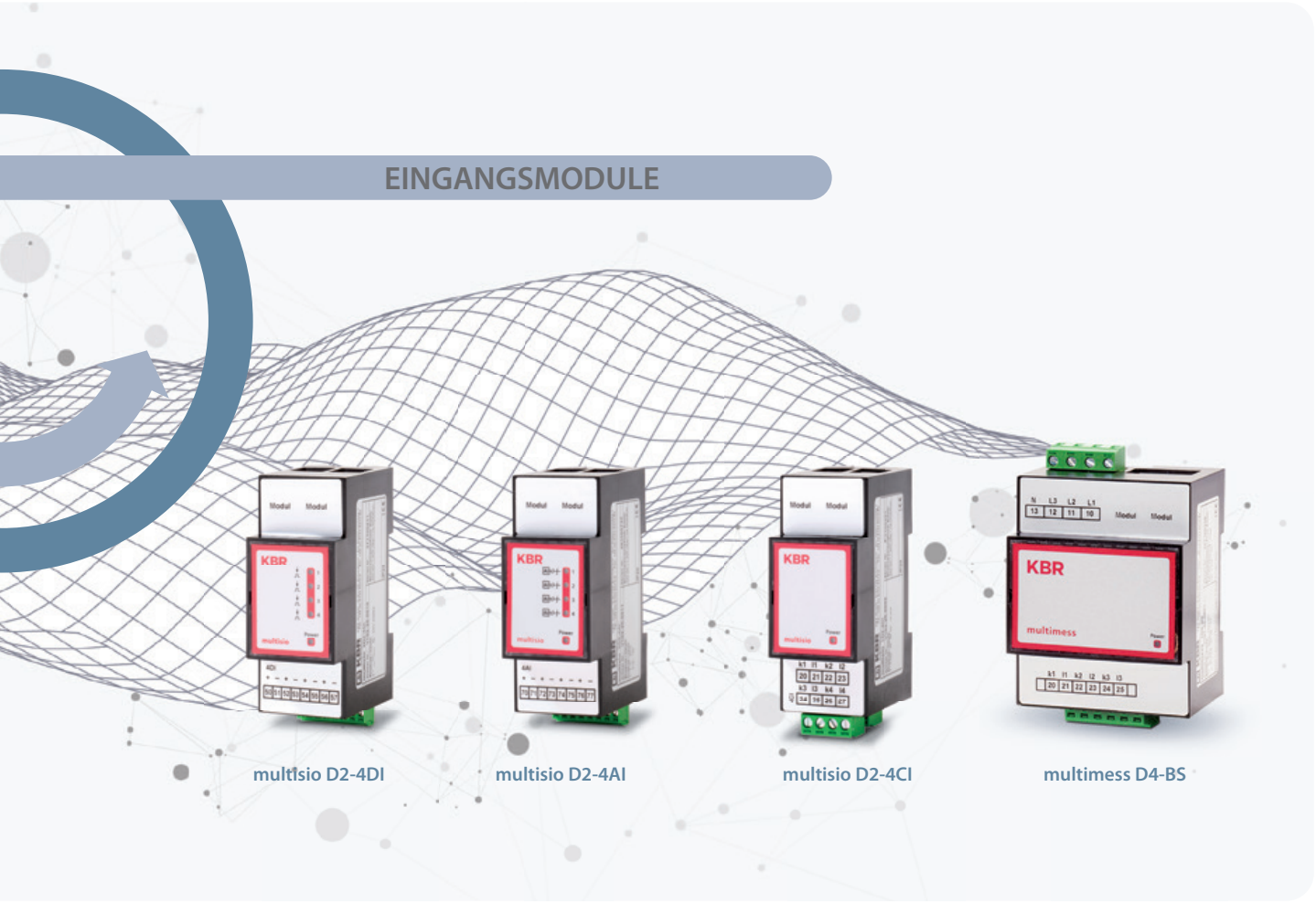
Energy supply: About the module bus

Connection to energy optimization:
About the module bus

Construction type:
DIN rail installation, 2 horizontal pitch

Item no.: 14205

EINGANGSMODULE



multisio D2-4DI | multisio D2-4AI | multisio D2-4CI | multimess D4-BS

multisio D2-4DI

Inputs: 4 x digital, isolated

Energy supply: About the module bus

Connection to energy optimization:
About the module bus

Construction type:
DIN rail installation, 2 horizontal pitch

Item no.: 14192

multisio D2-4AI

Inputs: 4 x analog (0–20 mA, 4–20 mA, 0–10 V)

Energy supply: About the module bus

Connection to energy optimization:
About the module bus

Construction type:
DIN rail installation, 2 horizontal pitch

Item no.: 14193

multisio D2-4CI

Inputs: 4 x current, 0–6 A

Energy supply: About the module bus

Connection to energy optimization:
About the module bus

Construction type:
DIN rail installation, 2 horizontal pitch

Item no.: 14185

multimess D4-BS

Inputs: 3 x current, 3 x voltage

Energy supply: About the module bus

Connection to energy optimization:
Via voltage input

Construction type:
DIN rail installation, 4 horizontal pitch

Item no.: 14166