POWER QUALITY

multicomp 3F144 LCD
3-phase-reactive power controller

PRODUCTS AND SOLUTIONS
FOR CONTEMPORARY
ENERGY MANAGEMENT

MADE IN
GERMANY

One System. Best Solutions.

KBR
Energy Management

multicomp 3F144 LCD

Housing dimensions (H x W x D in mm)	**144 x 144 x 68**
Data display	**illuminated LCD**
Interface	**KBR eBus Modbus***

*in preparation

Three-phase reactive power controller

Highlights

- → Detecting and compensating the missing compensation power in case of return feed
- → 18 stages for single-phase or three-phase compensation
- → Switching of capacitive and inductive stages
- → Limiting value monitoring function for the protection of capacitors from overvoltages and excessive harmonic load.
- → Integrated temperature measurement input for monitoring the ambient temperature and switching on fans
- → Illuminated graphic display 128 x 96 pixel with dimming function

The **multicomp 3F144 LCD** reactive power controller automatically works in 4-quadrant operation (generator operation), i.e. even with return feed into the energy supplier network, missing compensation power is detected and compensated without any problem. Through the integrated temperature measurement input, the ambient temperature in the reactive power compensation unit is also monitored, and if a predefined limiting temperature is exceeded, the ventilator is switched on. Through the three-phase recording of voltage and current, not only the usual three-phase compensation is possible, but also single-phase compensation or a combination of single-phase and three-phase compensation.

Technical details

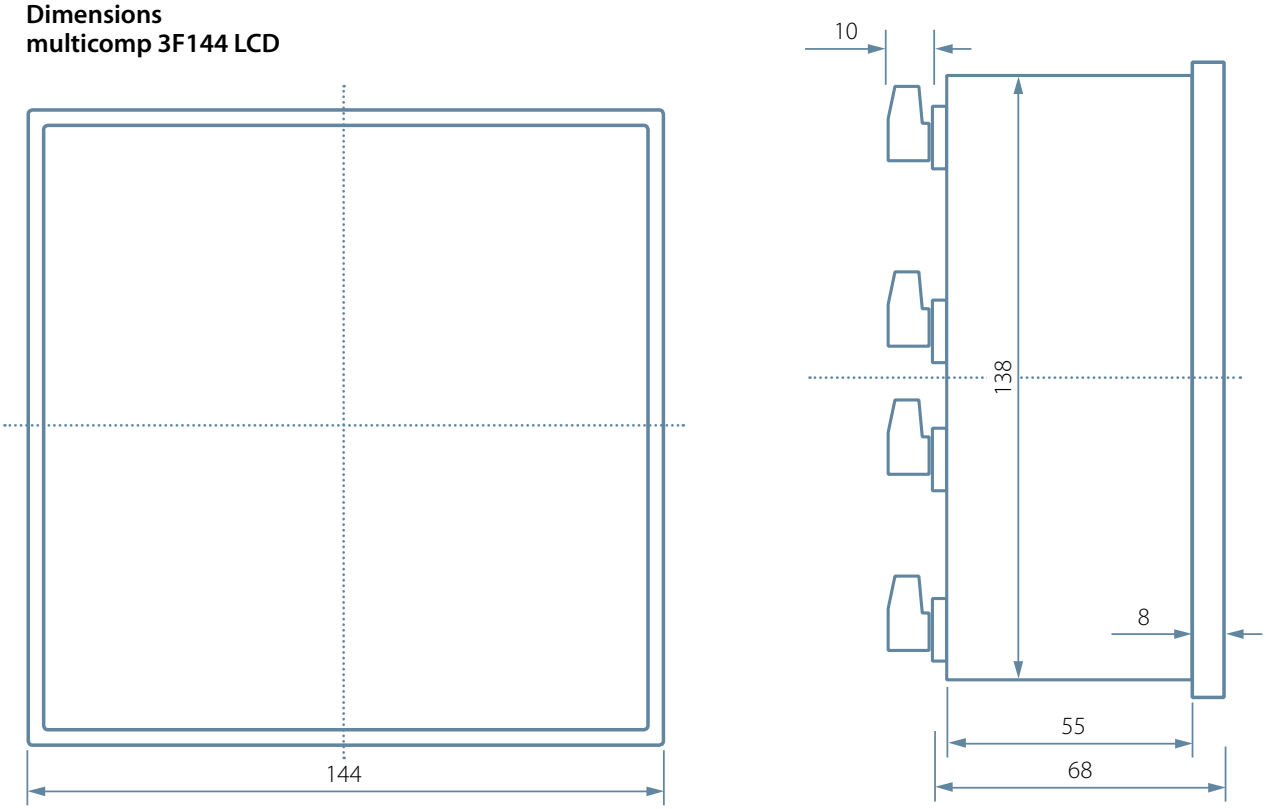
		DEVICE TYPE: multicomp 3F144 LCD
SWITCHING STAGES	**Relay outputs;** 250 VA per output; 250 V AC: 50 / 60 Hz	18
	Power per stage [kvar] programmable	0 to 9999,9 kvar ind. or kap.
	Discharge times programmable	10 ms to 999,99 sec.
	Manual-0-automatic switch | status display	■ | ■
	Rotary field / phase allocation programmable	– | ■ (I_{Main})
SWITCHING PERFORMANCE	**Self-optimizing** (circuit switching of the same stages)	■
	Special switching functions for	Group switching
	Switch-off limit for light load operation	Programmable
MONITORING FUNCTIONS	**No-voltage trigger**	■
	Overvoltage switch-off	■
	Temperature measurement and monitoring with fan control and emergency switch-off	■
	Harmonics monitoring with alarm message and emergency switch-off | additional displays	■
	Alarm messages programmable	■
	Target cos φ monitoring; alarm if unaccessible	■
	Switching operation monitoring with display per stage	■
	Controller status display (over / undercompensation)	■
SPECIAL OPERATING MODE	**Single-phase compensation**	■
DISPLAYS	**Display type**	LCD
	Measurement parameters (RMS values)	U_{PH-N}, U_{PH-PH}, I_{Main}, cos φ, f_{Net}, S-P-Q , S-P-Q_{total}, $Q_{total\ demand}$, Temp.
	Operating time display	■
MEASUREMENT	**Measuring precision: Voltage | current | power**	1% | 1% | 2%
	Update speed	20 ms
	Single phase measurement (4Q)	Phase - zero
	Three-phase measurement	3x Phase - zero

■ Standard version – Not available

Technical details / Dimensions

			DEVICE TYPE: multicomp 3F144 LCD
MEMORY	**Long-term memory for switching operations**		–
PASSWORD PROTECTION	**With digit code**		■
INPUTS	**Voltage path**	Low-voltage; direct measurement	Three-phase / single-phase
		Medium voltage	–
	Current path	Main current transformer	Three-phase / single-phase
		Induced current transformer	–
	Frequency range		40 to 62 Hz
	2. Setpoint cos φ2	Automatic switchover in case of energy recovery	■ | ■
OUTPUTS	**Additional relay outputs | error message relay / fan relay**		■ | ■
INTERFACES	**Serial interface RS485**		eBus, Modbus RTU in preparation
POWER SUPPLY	**Operating voltage | frequency | power consumption**		85 - 265 V AC/DC, 5 - 15 VA / 9 W, 50/60 Hz
DIMENSIONS	**Housing:** Switchboard installation, dimensions in mm (H x W x D) Switchboard cutout, in mm (H x W)		144 x 144 x 68 138 x 138

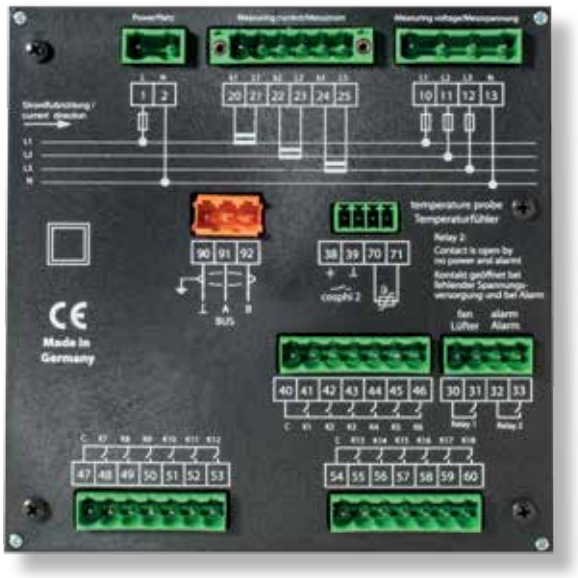
Dimensions multicomp 3F144 LCD



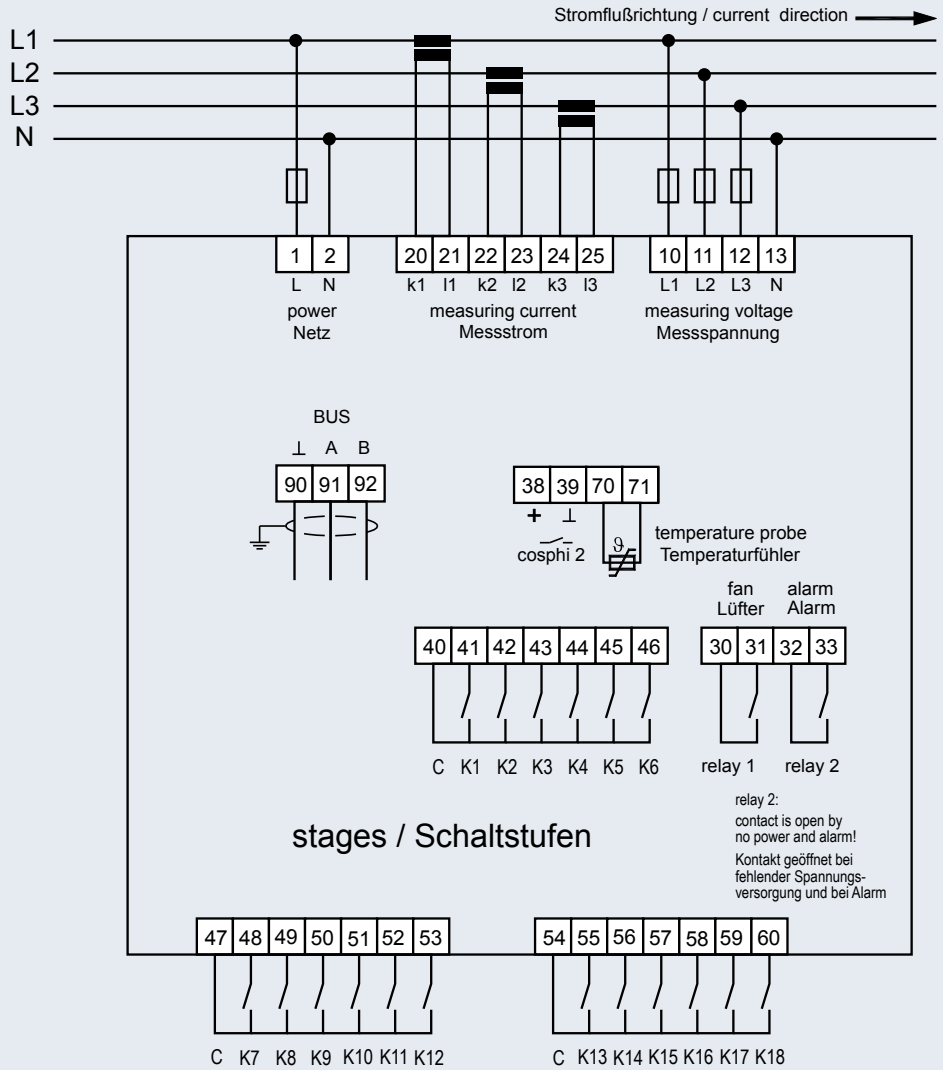
■ Standard version – Not available

All dimensions in mm. Not suitable for taking measurements.

Connection chart



Connection chart
multicomp 3F144 LCD



Measure like the professionals – with KBR measuring technology

POWER QUALITY – Mobile network analyzer for low, medium and high voltage networks

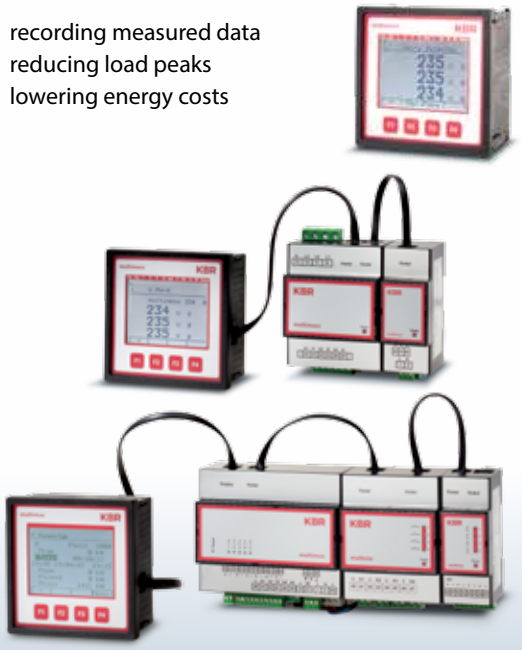
- → Full recording of all electrical parameters, in parallel and seamlessly
- → Measuring integrated with no prior configuration
- → Energy supply via measurement lines
- → Display information about the correct device connection and current measurement values
- → Assessment of voltage quality in accordance with EN 50160 and IEC 61000-2-2
- → Extensive and yet easy assessment functions
- → Company and project details on every printout
- → Precision class A in accordance with EN 61000-4-30

POWER QUALITY

Measurement optimization technology

The basis for contemporary energy management is the precise recording and processing of energy data. With its sophisticated measuring devices, energy meters and signal components, KBR creates the best conditions for more transparency and efficiency when dealing with energy. Modular energy optimization reduces energy costs by optimizing the provision of power.

- recording measured data
- reducing load peaks
- lowering energy costs



Power capacitors

multicond

- power from 1,5 to 37 kvar
- capacitor rated voltage of 280, 440, 480, 525 oder 690 V
- 1 or 3-phase version
- high level of safety through dry technology and 3-phase internal overpressure disconnector.
- including compact discharge resistor
- long working life
- increase operational safety

Software

The web-based energy data management software „visual energy" creates a ready-to-use system with the KBR hardware and our service package.
This makes the energy supply transparent, increases operating safety, helps identifying savings potentials and considerably reduces energy costs.

- analyzing energy data
- increasing operational safety
- recognizing savings potentials

visual energy
Webbasiertes EnergyManagement

Compensation

Reactive power compensation and improvement of the network quality are essential aspects of KBR Power Quality. KBR develops and produces the components for the compensation systems in its own production facilities. Our Power Quality team offers network analyses, on-site troubleshooting and active power filters in order to improve grid quality.

- cost reduction of reactive energy
- increasing supply safety
- increasing operational safety

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