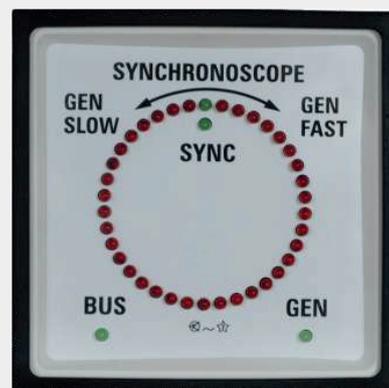
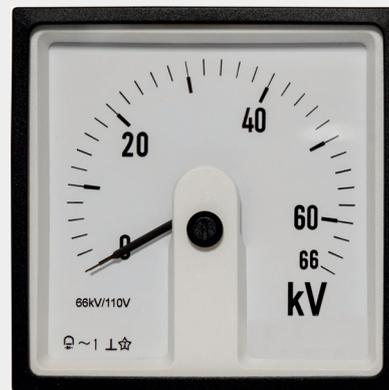
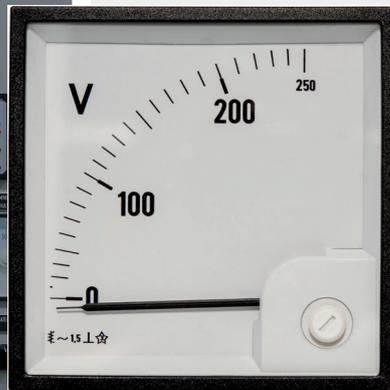
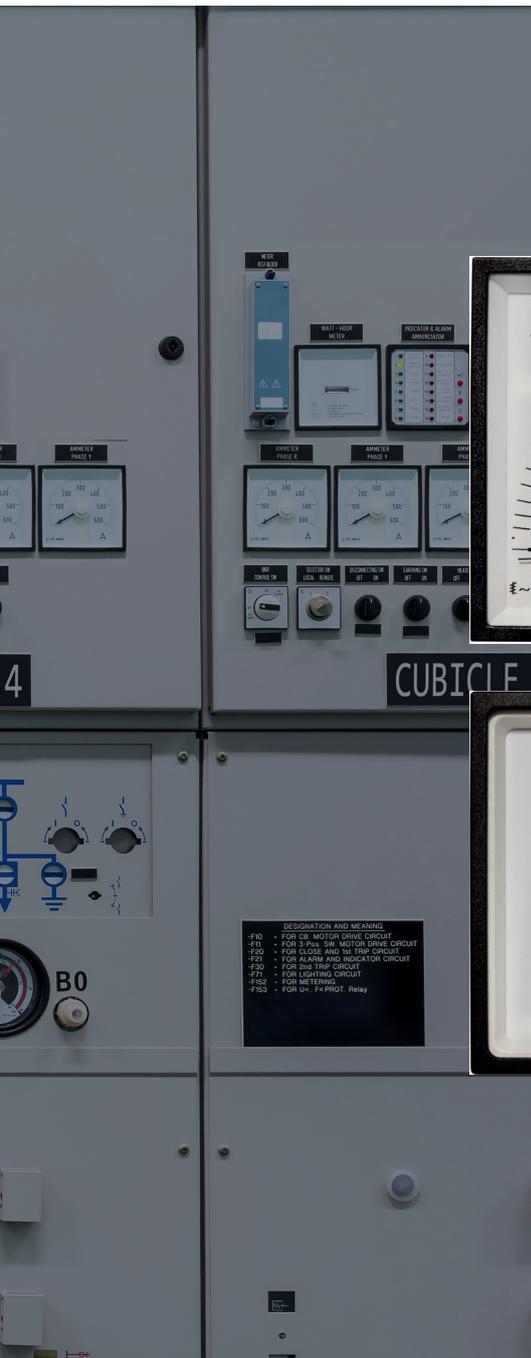


SIMPLE MEASUREMENT IN ELECTRICAL NETWORK

ANALOG METERS FOR
DISPLAYING THE MOST
IMPORTANT ELECTRICAL DATA



SIRAX ANALOG METER SERIES

SIRAX BM100 • SIRAX BM200/250 • SIRAX BM300/350 • SIRAX BM400 • SIRAX BM500/550
SIRAX BM600/650 • SIRAX BM700/750 • SIRAX BM800/850 • SIRAX BM900 • SIRAX BM910 • SIRAX BM920



ANALOG METERS FOR DISPLAYING THE MOST IMPORTANT ELECTRICAL DATA



Camille Bauer Metrawatt AG offers you a wide range of analog display measuring devices for almost all areas of application. A wide variety of device types, housing dimensions and scales are available for installation in control panels, machines and mosaic grids.

It can be used to solve the following measurement tasks:

- Direct measurement of DC current or AC current (with current transformer or shunt)
- DC voltage or AC voltage
- AC voltage with integrated voltmeter switch
- Frequency
- Frequency with vibration measuring mechanism
- Power
- Power factor
- Operating hours counter
- Synchronizing device (synchroscope)
- Special designs on request

FLEXIBLE

High flexibility thanks to a large number of variants

Scale divisions that can be selected according to customer specifications

Deliberately no company logo on the front scale

Selectable position of use

Simple measuring unit at the best price

High delivery promise

SIMPLE

Very easy and quick assembly and installation

No auxiliary voltage required

No parameterization necessary

Clear design

CLEAR

Simple and clear presentation of the measured values

Fast acquisition of measured values

Tendencies and trends can be seen at a glance

RELIABLE

Compact and robust housing

Contact protection of the terminals

Low probability of failure of the display

High device security, durability and availability



ANALOG METERS

Analog meters are designed to indicate electrical parameters such as AC/DC Current and Voltage, Frequency, maximum demand current, Power and Power Factor.

The meters are classified in two categories – DIN Meters and ANSI Meters.

The purpose of the analog meters is to display process data and identify trends in measured variables. They are suitable for mounting in control panels, switch boards and machine consoles.

The analog meter portfolio includes moving iron, moving coil, moving coil with rectifier, Bimetal MDI, frequency, power factor, power, run hour, maximum demand, selector switch and 2 in 1 meters and it also includes accessories.

All of the devices have a compact and robust polycarbonate housing with a high flammability class of UL94-V0. The values are displayed over a 90° or 240° scale.

The analog meters can be used in different working positions. The standard working position is vertical. The devices are very easy to mount using the mounting clamps.

The analog meters from Camille Bauer Metrawatt AG fulfill the high demands on safety that are placed on electrical systems today.

APPLICATIONS

HV AND LV SWITCHGEAR PANELS



MASCHINE CONTROLPANEL





GENERATOR POWER SET PANEL FOR GASOLINE OR DIESEL ENGINES



CONTROL AND PROTECTION PANEL FOR POWER PLANTS



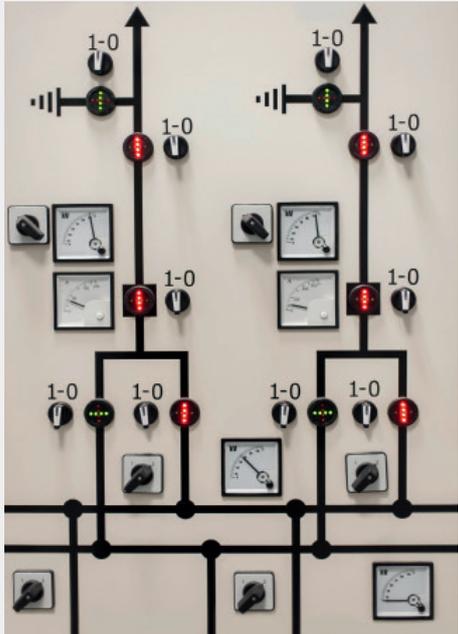
BUTTO REMOTE CONTROL IN FACTORY



CONTROL ROOM FOR SHIP ENGINES

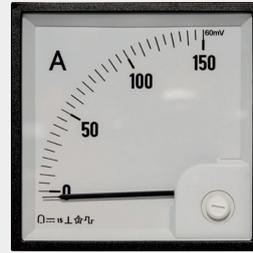


RELAY PROTECTION SY





OVERVIEW OF ANALOG METERS



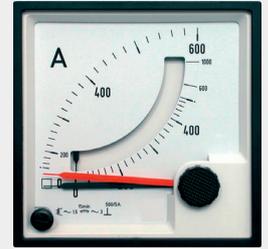
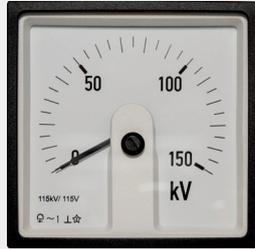
BM100

BM150

BM200

BM250

MEASURING TYPE	Current and voltage			
DEVICE TYPE	Moving Iron	Moving Iron with Switch	Moving Coil	
SCALLING	knife-edge pointer			
TYPE OF SCALE	90°	90°	90°	240°
FRONT FRAME SIZE	□48mm / □72mm / □96mm / □144mm	□72mm / □96mm	□48mm / □72mm / □96mm / □144mm	
MOUNTING POSITION	0 ... 120°			
MEASURED PARAMETERS	AC current / voltage	1- or 3-phase AC current / voltage	DC current / voltage	
MEASURING RANGE CURRENT	100mA ... 100A ... / 5A (for Converter) ... / 1A (for Converter)	1A / 5A	15μA ... 100A 4 ... 20mA (for Converter)	50μA ... 100A 4 ... 20mA (for Converter)
MEASURING RANGE VOLTAGE	6V ... 1000V ... / 100V (for Converter) ... / 110V (for Converter)	100V ... 600V	15mV ... 1000V 60mV ... 150mV (for Shunt)	60mV ... 600V 50mV ... 150mV (for Shunt)
INSULATION TEST VOLTAGE	3kV 2kV (for □48mm)	3kV	3kV 2kV (for □48mm)	
ACCURACY	1.5% (from the reference value)			
HOUSING MATERIAL	Polycarbonate			
FLAMMABILITY CLASS	UL94 V-0, self-extinguishing, non-dripping, halogen-free			
HOUSING PROTECTION	IP52 housing on the front IP00 connections without protection against accidental contact IP20 connections with protection against accidental contact			
CONFORMITY TO STANDARDS	Performance: IEC 60051 Safety: IEC 61010			



BM300

BM350

BM400

BM500

BM550

Current and voltage

Moving Coil with Rectifier

Moving Iron or Moving Coil for DIN rail mounting

Bimetal

Bimetal / bimetal Moving iron

knife-edge pointer

knife-edge pointer
Maximum value bar pointer

90°

240°

90°

90°

90°

□48mm / □72mm / □96mm / □144mm

□45mm
(45 x 85 x 57mm)

□72mm / □96mm

0 ... 120°

AC current / voltage

AC or DC current,
AC or DC voltage

AC current

100µA ... 10A
... / 5A (for Converter)
... / 1A (for Converter)

100mA ... 10A
... / 5A (for Converter)
... / 1A (for Converter)

1mA ... 15A
... / 5A (for Converter)
... / 1A (for Converter)

1A / 5A
1A...10000A / 1A
1A...10000A / 5A

6V ... 600V
... / 100V (for Converter)
... / 110V (for Converter)

100mV ... 600V
... / 100V (for Converter)
... / 110V (for Converter)

--

3kV
2kV (für □48mm)

2kV

3kV

3kV

1.5% (from the reference value)

3% (from the reference value)

Ploycarbonate

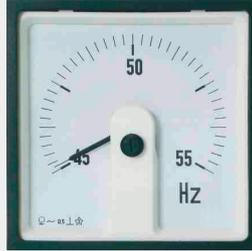
UL94 V-0, self-extinguishing, non-dripping, halogen-free

IP52 housing on the front
IP00 connections without protection against accidental contact
IP20 connections with protection against accidental contact

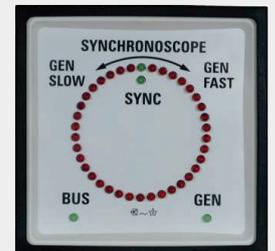
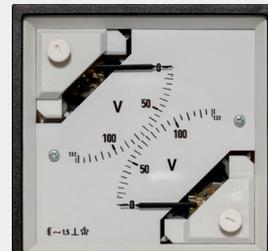
Performance: IEC 60051
Safety: IEC 61010



OVERVIEW OF ANALOG METERS



	BM600	BM650	BM700	BM750
MEASURING TYPE	Frequency		Power factor (Single-phase / 3-phase network)	
DEVICE TYPE	Moving Coil with built-in converter			
SCALLING	knife-edge pointer			
TYPE OF SCALE	90°	240°	90°	240°
FRONT FRAME SIZE	□72mm / □96mm	□96mm / □144mm	□72mm / □96mm	□96mm / □144mm
MOUNTING POSITION	0 ... 120°			
MEASURED PARAMETERS	45...50...55 Hz / 45...55...65 Hz / 45...60...65 Hz 360...400...440 Hz / 380...400...420 Hz		COS cap 0.5...1...0.5 ind COS cap 0.8...1...0.3 ind COS cap 0.8...1...0.8 ind	
MEASURING RANGE CURRENT	--		1A / 5A	
MEASURING RANGE VOLTAGE	57.7V ... 500V			
INSULATION TEST VOLTAGE	2kV		2kV	
ACCURACY	0.5% (from the reference value)		1.5% (from the reference value)	
HOUSING MATERIAL	Ploycarbonate			
FLAMMABILITY CLASS	UL94 V-0, self-extinguishing, non-dripping, halogen-free			
HOUSING PROTECTION	IP52 housing on the front IP00 connections without protection against accidental contact IP20 connections with protection against accidental contact			
CONFORMITY TO STANDARDS	Performance: IEC 60051 Safety: IEC 61010			



BM800		BM850	BM900	BM910	BM920
Active and reactive power (Single-phase / 3-phase network)			Time in hours	Current and voltage	Frequency and phase difference
Moving Coil with built-in converter			Roller counter with synchromotor	2 in 1 Moving Iron	Synchroscope
knife-edge pointer				knife-edge pointer	LED 360°
90°		240°		90°	--
□96mm			□72mm / □96mm	□72mm / □96mm	□96mm / □144mm
0 ... 120°					
Specify when ordering			00000.00 ... 99999.99	1A / 5A 1A...10000A / 1A 1A...10000A / 5A	35 ... 70 HZ
5A ... 200000A / 1A 5A ... 200000A / 5A			--	100mA ... 60A ... / 5A (for Converter) ... / 1A (for Converter)	--
57.7V ... 500V			100 ... 125 VAC 200 ... 250 VAC 380 ... 440 VAC	6V ... 600V ... / 100V (for Converter) ... / 110V (for Converter)	100 ... 500 VAC
2kV			3kV	3kV	2kV
1.5% (from the reference value)			±0.02s in 24 h	3% (from the reference value)	--
Ploycarbonate					
UL94 V-0, self-extinguishing, non-dripping, halogen-free					
IP52 housing on the front IP00 connections without protection against accidental contact IP20 connections with protection against accidental contact					
Performance: IEC 60051 Safety: IEC 61010					



OVERVIEW OF ANALOG METERS



	BM930	BM950 - ANSI		
MEASURING TYPE	Frequency	AC and DC current AC and DC voltage Frequency		
DEVICE TYPE	Moving Coil with built-in converter	DC Moving Coil Ammeter/Voltmeter AC Moving Iron Ammeter/Voltmeter Frequency meter		
SCALLING	knife-edge pointer	knife-edge pointer		
TYPE OF SCALE	Reed movement	acc. to ANSI C39.1		
FRONT FRAME SIZE	□72mm / □96mm	2 1/2"	3 1/2"	4 1/2"
MOUNTING POSITION	0 ... 120°	Panel mounting		
MEASURING RANGE CURRENT	--	DC Moving Coil Ammeter: 50 µA ... 60 A AC Moving Iron Ammeter: 100 mA ... 50 A		
MEASURING RANGE VOLTAGE	--	DC Moving Coil Voltmeter: 50 mV ... 600 V AC Moving Iron Voltmeter: 6 V ... 600 V		
MEASURING RANGE FREQUENCY	45 ... 65 Hz	45 ... 65 Hz 360 ... 440 Hz		
RATED VOLTAGE FOR FREQUENCY	100 ... 440 V	57.7 ... 500 V		
INSULATION TEST VOLTAGE	2kV	--		
ACCURACY	1.5% (from the reference value)	DC Ammeter/Voltmeter: 1.5% (0 ... 100% of full scale deflection) AC Ammeter/Voltmeter: 1.5% (10 ... 100% of full scale deflection) Frequency meter: 0.5% (of end scale value)		
HOUSING MATERIAL	Polycarbonate			
FLAMMABILITY CLASS	UL94 V-0, self-extinguishing, non-dripping, halogen-free			
HOUSING PROTECTION	IP52 housing on the front IP00 connections without protection IP20 connections with protection	IP50		
CONFORMITY TO STANDARDS	Performance: IEC 60051 Safety: IEC 61010	Performance: ANSI C39.1 and IEC 60051 Safety: IEC 61010 and BS EN 61326 Terminal bolts: 1/4 "UNC"-28		



ANALOG METERS ACCESSORIES

Camille Bauer Metrawatt AG offers a wide range of accessories for analog meters. The range includes scales, bezels, glass, mounting clamps, back cover and IP65 Kit. All accessories can be ordered on request.

SCALES

Scales can be supplied in blank or printed version upon request, according to customer requirements.



GLASS

The Frontglass can be replaced and can be supplied on request as accessories.



BACK COVER

The back cover for protection against accidental contact can be supplied on request in various sizes such as 48x48mm, 72x72mm, 96x96mm and 144x144mm as accessories.



BEZELS

The bezels are easily interchangeable, available on request in black and in various sizes such as 48x48mm, 72x72mm, 96x96mm and 144x144mm



MOUNTING CLAMPS

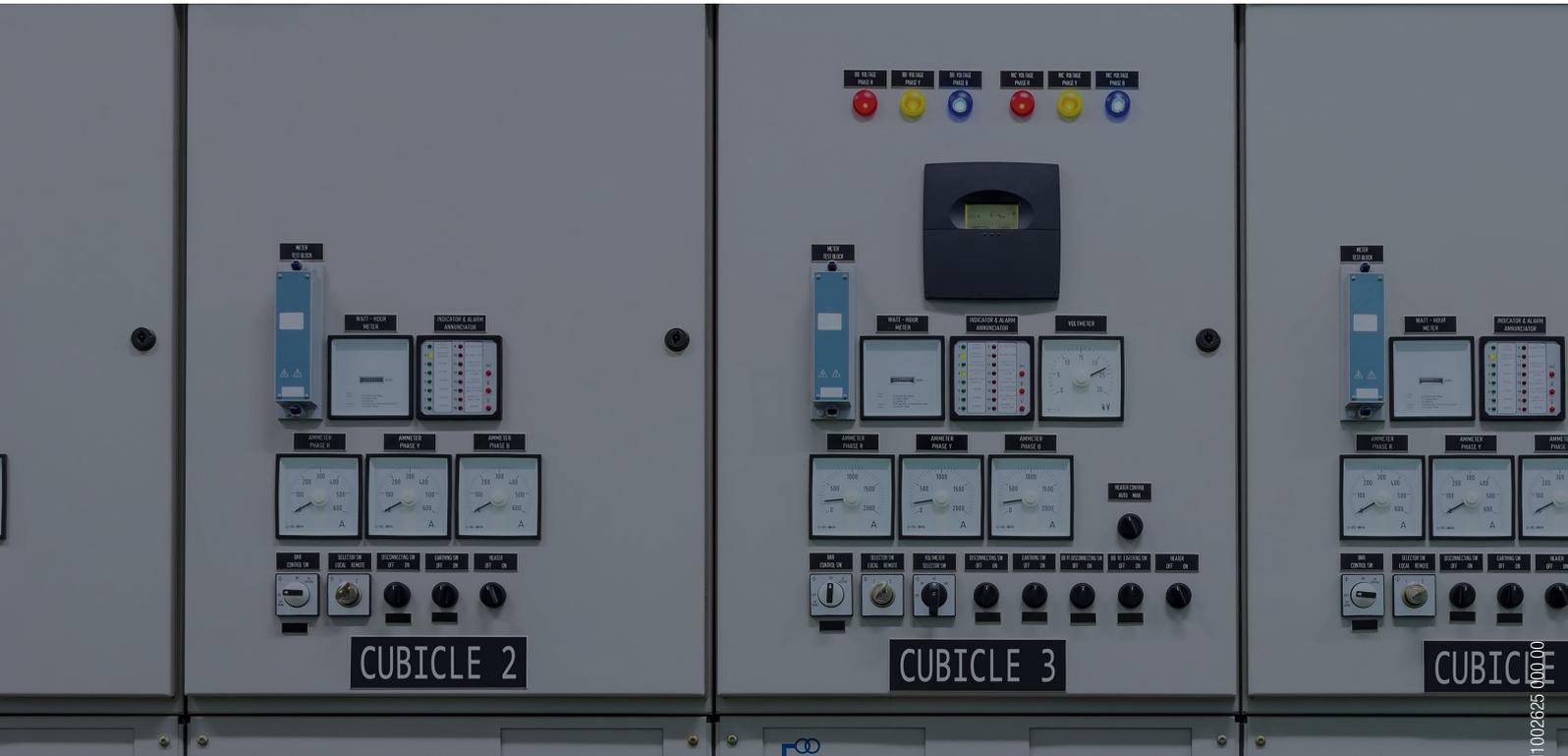
The mounting clamps in form of swivel screws can be supplied on request as accessories.



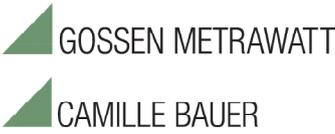
IP65 KIT

The IP65 Kit in sizes of 48x48mm, 72x72mm and 96x96mm is to increase the penetration of dust and water from IP62 to IP65. The Kit is supplied on request as accessories.





GMC INSTRUMENTS



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-F102 • FOR BUSBAR V1 CIRCUIT-S
-F103 • FOR MAIN HEATING CONTROL CIRCUIT
-F71 • FOR LIGHTING CIRCUIT
-F71M • FOR MAIN LIGHTING CIRCUIT

SW-1056-000-00-EN-10.21
PMT1002625 40090
Subject to change without notice