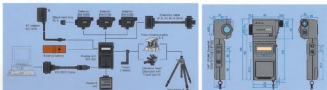


Specifications

Detector model	BM-9200	BM-9100	BM-9020				
Measuring lens	2"	1"	0.2"				
Optical system	Coated lens, F = 28mm F2.5						
Viewing field	5°						
Measurement distance	300mm						
Measurement diameter (units: mm)	Measurement distance (m)						
	Measuring field	0.35	0.4	0.5	1	3	5
	2"	3.5	11.2	18.2	25.3	32.3	102
	1"	4.7	5.6	9.1	12.7	16.2	51.1
0.2"	0.95	1.12	1.82	2.53	3.23	10.2	17.3
*Units conversion according to the following system: 1 inch = 25.4mm. *Measurement distance: lens center distance from the tip of the detector lens. *Resolution: 0.01mm (0.1mm at 100mm distance), 0.1mm (1mm at 100mm distance), 1mm (10mm at 100mm distance), 10mm (100mm at 100mm distance).							
Minimum measurement distance	1.5mm (0.1 inch) at 100mm distance, 0.1mm (0.01 inch) at 100mm distance, 10mm (0.4 inch) at 100mm distance, 100mm (4 inch) at 100mm distance.						
Display	4-digit LCD						
Photo cell	Silicon photodiode						
Spectral sensitivity characteristics	Within 8% deviation from the relative luminous efficiency JIS C 1909-1993						
Measurement range	0.01-100,000Lux		0.1-100,000Lux		1-10,000,000Lux		
Precision	±4% of rdg. ±1 digit		±4% of rdg. ±1 digit		±4% of rdg. ±1 digit		
	*Standard deviation: 4.0% (1 Lux at 100 Lux)		*Standard deviation: 4.0% (1 Lux at 100 Lux)		*Standard deviation: 4.0% (1 Lux at 100 Lux)		
Temperature properties	Within ±2% (0-40°C, 23°C as standard)						
Humidity properties	Within ±2% (80%RH or lower, 60%RH as standard)						
Analogue signal output	0-3 Vmax 1mA/1 digit. Response speed at line of analog output: 1-10 ms at FAS1						
RS-485 conditions	Baud rate: 2400 BPS. Data length: 7. Parity: ODD. Stop bit: 1						
Power supply	One 9V battery (6F22). *Operating time using continuously: approx. 13 hours when not using RS-232C, 5 hours when using RS-232C.						
Operating conditions	Temperature: 0°C-60°C. Humidity: 80% RH or lower						
External dimensions	Approx. 178 (L) x 118 (W) x 56.5 (H) mm. *Depth at Approx. 171 (L) x 73.5 (W) x 33.24 (H) mm. *Detector: Approx. 75.6 (L) x 107.50 (W) x 21 mm						
Weight	Display unit: Approx. 200g (including battery). *Detector: Approx. 250g						

System / Dimensions



*Subject to change in design and/or specifications without notice.

IMPORTANT In order to obtain the best results with this instrument, please be sure to follow all user instructions prior to operation.

TOPCON TECHNOHOUSE CORPORATION

75-1, Hasunuma-cho, Rabashi-ku, Tokyo 174-8580 Japan
Phone: 3-3558-2666 Fax: 3-3558-6001

TOPCON

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LUMINANCE METER

BM-9 *New*



Luminance meter

BM-9 New

The Luminance meter BM-9 is a handy-type luminance meter with a wide measurement range and excellent operational convenience. With newly added 1" measuring field detector, totally three types of detectors (2"/1"/0.2") can handle a wider range of usage. Measurement mode selection using dip switches has greatly improved operational ease. Also, in-line arrangement can be easily dealt with, due to the built-in RS-232C and the separation of the detector and the display unit. There are a wide variety of options, such as keyboard unit, extension cable, RS-232C cable, etc.

Examples of use

- Luminance measurement of LCDs, CRTs, LEDs, etc.
- Luminance sensor for robots
- Luminance measurement of street lighting, tunnel lighting, etc.
- Measurement of airport lighting facilities, sea route signals
- Transmittance measurement for LCD polarizing plates and various filters
- Measurement of medical lighting
- Illuminance irregularities of automobile license plates
- Luminance measurement of various lighting facilities, etc.



Features

Measurement mode selection with dip switches

Zero calibration and manual range can be set with a simple operation.

- **Zero calibration ON/OFF**
Select whether or not to perform zero calibration when turning the power on.
- **RS-232C ON/OFF**
Set this to OFF when not using the RS-232C. This reduces power consumption of the device, extending the battery life.
- **Measurement range**
Choose between auto-range and fixed (manual) range. Set to fixed range when using analog output.

<dip switches>

1. ON → Enable zero calibration when turning the power on.
OFF → No execution of zero calibration when turning the power on.
2. ON → Use RS-232C.
OFF → No use of RS-232C.
- 3.—5. Measurement range settings



1	2	3	4	5
ON	OFF	OFF	OFF	OFF
OFF	ON	OFF	OFF	OFF
OFF	OFF	ON	OFF	OFF
OFF	OFF	OFF	ON	OFF
OFF	OFF	OFF	OFF	ON

A wide range of measurements can be performed at high precision

- Detector 2" (BM-9203) → 0.01—199,900 cd/m²
- Detector 1" (BM-9103) → 0.1—1,999,000 cd/m²
With 1" detector, the display value multiplied by 10 is the luminance value.
- Detector 0.2" (BM-9023) → 1—19,990,000 cd/m²
With 0.2" detector, the display value multiplied by 100 is the luminance value.

RS-232C built in (RS-232C cable is an optional accessory). A simple connection to a PC with the RS-232C output enables a handy line-compatible system.



Interface RS-232C (baud rate: 2400 BPS, data length: 7 bit, parity: ODD, stop bit: 1)



A wide range of optional accessories

Using the extension cable (optional) allows the detector and the display unit to be separated for measurement.
Using the keyboard unit (optional) shows measurements such as display of deviation from the reference value, measurement of accumulated luminance, etc.

Options

Keyboard unit



- **Calibration coefficient (C.C.F. mode)**
Input of calibration coefficients displays post-calibration data.
- **Deviation measurement (% mode)**
Percent measurement (% mode)
Input of reference luminance displays the deviation from the reference value and the percentage thereof.
- **Accumulated luminance measurement (cdm²-h mode)**
Accumulated luminance and accumulation time are alternately displayed every 2 seconds. Maximum accumulation luminance is 1,000,000,000 cdm²-h, and maximum accumulation time is 9,999 hours (approx. 1.2 years).

RS-232C cable



For wiring in conformity to modern cable length is 1.5 m.
*If the PC you are going to connect to has a high-speed RS-232C type terminal, you will also need a universal cable-to-adapter converter (25 pin female to 9 pin female).

AC adapter AD-1018

Handy if long hours continuous operation is required. This also serves as an external battery charger.

Attachment lens AL-8

A lens for reducing the measurement area of the BM-9. Attach to the tip of the objective lens.



External battery

An accessory power cord is used to attach the external battery to the main unit. The AC adapter AD-1018 serves as the charger.

Tripod L-holder

A holder for standing the BM-9 on a tripod.



Fine movement table S-4

Adjustment table for easy execution of delicate calibration. Attach instead of the tripod universal head.



- Elevation: 40°
- Angle of depression: 90°
- Rotation: 360°
- Weight: approx. 1.7 kg

Extension cable

Effective if you want to separate the detector and the display unit for measurement. Five types are available: 2, 5, 10, 20 and 30m.

Measurement diameter when using the AL-8 (units: mm)

Measurement angle	Measurement distance [mm]
	12—16
2"	1.45—1.25
1"	0.75—0.55
0.2"	0.35—0.22

*Measurement diameter differs according to the focusing position of the objective lens.
*Measurement distance shows here is the distance from the tip of the attachment lens to the object.