



MAS

Milli-amp Light Sensor

DESCRIPTION

The MAS is a light level sensor. The sensor is powered by 24VDC and provides a 4-20mA analog signal. The MAS is factory calibrated with Full scale ranges of 100Fc, 250Fc, 1000Fc and 5000Fc response. Corresponding sensor housings, which includes; Indoor, Outdoor, Atrium and Skylight.

OPERATION

As the light level increases during the day, the analog photodiode sensor responds with an increasing current. When the sensor saturates at its full scale output, it remains stable, until the light level drops and the sensor output begins to decrease.

RANGE

The factory calibrated range of each sensor is transmitted over a current output of 4-20mA. The range can be changed in the field to either 1/2 or 2X the factory settings using the Field Calibration unit MAS-CAL.

RANGE ADJUSTMENT

The sensor is field scalable with the MAS-CAL. The factory sensor scaling is defined as 1X (One times the factory preset range), at 20mA. The MAS-CAL has a button for 1/2X. or half range the factory preset range, calibrated to 20mA. The MAS-CAL has a button for 2X or twice the factory range, at 20mA. The MAS-CAL indicates the calibration with 3 LEDs, one next to each configuration button.

TIME ADJUSTMENT

Three time settings are available on the MAS-CAL. The time setting is based upon the full scale response time of the sensor from 10% to 90% of the range. The first is the factory setting of 0T (Zero times the factory preset range) and is defined as 1 second. The second is the factory setting of 1T (One times the factory preset range), which is defined as 10 minutes, The second time setting is 2T, (two times the factory preset range), which is defined as 20 minutes. The MAS-CAL indicates the time setting with 3 LEDs, one next to each time setting button.



FEATURES

- Powered by 18-30VDC with polarity protection.
- 2 wire loop powered 4-20mA signal.
- Less than 10VDC burden.
- Precise photo-diode sensor designed.
- Factory calibrated to a range of 100 Fc Indoor, 250 Fc Outdoor, 1000 Fc Atrium and 5000 Fc Skylight.
- Range changeable in the field, to either to 1/2 or twice the factory setting.
- Factory full scale response time 10 minutes.
- Time changeable for full scale response to 1 second, and 10 or 20 minutes.
- Make MAS Indoor, Outdoor, Atrium and Skylight ranges and time changes easily with optional FCU. (See FCU data sheet).
- Program changes over 4-20mA signal wires up to 5,000 ft. away.
- Easy installation with 1/2" NPT mounted facing up towards the skylight.
- New high temperature suturing process combines LEAD FREE parts & premium circuit boards offers same level of performance.
- 2 year warranty.

DATA SHEET



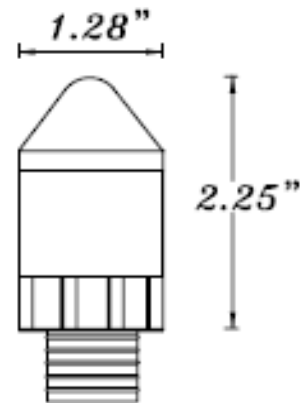
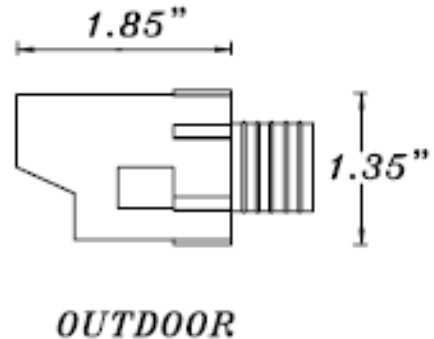
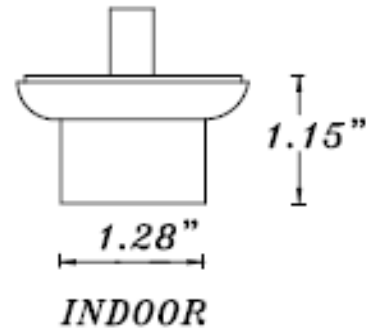
PLC-MULTIPOINT, INC.

PHOTO LIGHTING CONTROL & SYSTEMS

MAS TECHNICAL DATA

Accuracy:	Repeatability +/- .5% Linearity +/- 2% at 70 F (21 C) Temperature +/- 10%
Operating Temp:	-40 F to 140 F. (-40C to 60C)
Sensor Type:	Blue-enhanced Photo Diode
Sensor Ranges:	<u>Housing</u> <u>Factory Cal.</u>
MAS/I	Indoor 0 - 100 Fc
MAS/O	Outdoor 0 - 250 Fc
MAS/A	Atrium 50 - 1000 Fc
MAS/S	Skylight 100 - 5000 Fc
Compliance Voltage:	24VDC +6VDC / -6VDC
Protection:	Non Polarized
Loop Burden:	<10 VDC
Sensor Output:	4.0 - 20mA +/- .1mA
Adjustability:	(See calibration table)
Overall Tolerance:	+/- 12% over the spec light & temp. range
Full Scale:	(0T) 1 second
Response Time	(1T) 10 Minutes (2T) 20 Minutes
Wiring: (I/O/A)	(2) 22ga. Wires, 5" length pre-stripped
Wiring: (S)	(2) 22ga. Wires, 96" length pre-stripped
Red:	Loop Compliance Voltage
Black:	4-20mA Signal
Sensor Dim:	(See MAS Calibration Table)
Housing:	(See MAS Calibration Table)
Mounting:	(See Mounting Drawings)
Weather Resistance:	Lens: sealed, optical dark UV, resistant epoxy. Nipple: sealed packing epoxy
Compliance:	Reduction of Hazardous Substances
ROHS:	Directive 2002/95/EC on the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHs) Effective 07/01/2006

DATA SHEET



CALIBRATION TABLE

<u>SENSOR</u>	<u>STYLE</u>	<u>LENS</u>	<u>FILTER</u>	<u>MOUNTING</u>	<u>ORIENT</u>	<u>MIN.</u>	<u>ADJ. MAX</u> <u>1/2X</u>	<u>FACTORY</u> <u>SET MAX 1X</u>	<u>ADJ. MAX</u> <u>2X</u>	<u>Height</u>	<u>Dia.</u>
MAS/I	Indoor	Fresnel	Clear	Ceiling	Down	0	50 Fc	100 Fc	200 Fc	2.00"	1.28"
MAS/O	Outdoor	Flat	Clear	1/2" IPT	Horiz.	0	125 Fc	250 Fc	500 Fc	1.85"	1.28"
MAS/A	Atrium	Dome	Opaque	1/2" IPT	Horiz	50	500 Fc	1000 Fc	2000 Fc	2.25"	1.28"
MAS/S	Skylight	Dome	Dark	1/2" IPT	Up	100	2,500 Fc	5,000 Fc	10,000 Fc	2.25"	1.28"