OMNI-BEAM™ AC Power Blocks

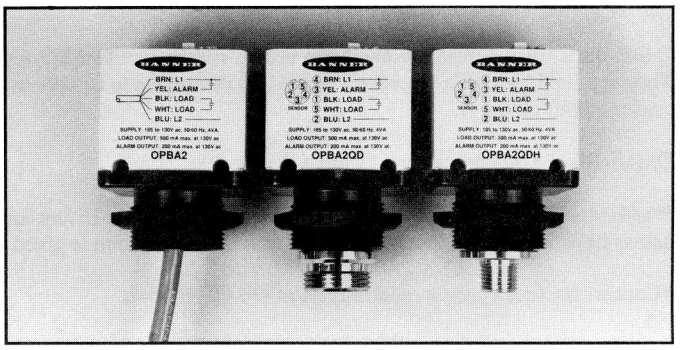
BANNER
the photoelectric specialist

OMNI-BEAM ac power blocks are available for either 120V ac or 220/240V ac. They provide the regulated low-voltage dc power required to run the circuitry of the sensor head and logic module (if one is used). All models, except emitter-only types, have two solid-state output circuits, one for switching the load and the other for the alarm of the **D.A.T.A.** self-diagnostic system.

The LOAD output is an isolated 1/2-amp rated infinite-life solid-state relay. The alarm output is also a solid-state relay, rated at 0.2 amps, with one side of the contact tied internally to the "hot" side of the ac supply voltage. Both outputs have very low off-state leakage current for direct interfacing to programmable logic controllers (PLCs).

All OMNI-BEAM power blocks are epoxy-encapsulated and rated for -40 to +70°C (-40 to +158°F). They feature limit-switch style cross-hole design for front, back, or side mounting, plus a 30mm threaded hub for swivel bracket or through-hole mounting. Models include prewired cable or either style of quick-disconnect (QD) fitting.
**NOTE: contact factory for availability of micro QD models.*

Model	Input	Cable or Connector
OPBA2	105-130V ac	Prewired 6-foot PVC-jacketed
OPBB2	210-250V ac	5-conductor cable.
OPBA2QD	105-130V ac	Integral standard 5-conductor quick-disconnect cable fitting.
OPBB2QD	210-250V ac	Requires cable model MBCC-512, sold separately.
OPBA2QDH*	105-130V ac	Integral 1/2-inch micro 5-conductor quick-disconnect cable
OPBB2QDH*	210-250V ac	fitting. Requires micro cable model MQDC-515, sold separately.
The following six power blocks are for use with emitters only (model OSBE). They contain no output circuitry.		
OPBAE	105-130V ac	Prewired 6-foot PVC-jacketed
OPBBE	210-250V ac	2-conductor cable.
OPBAEQD	105-130V ac	Integral standard 5-conductor quick-disconnect cable fitting.
OPBBEQD	210-250V ac	Requires cable model MBCC-512, sold separately.
OPBAEQDH*	105-130V ac	Integral 1/2-inch micro 5-conductor quick-disconnect cable
OPBBEQDH*	210-250V ac	fitting. Requires micro cable model MQDC-515, sold separately.



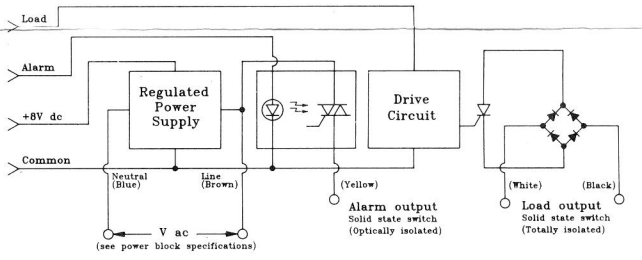
Specifications, ac Power Blocks:

Input:
120V models: 105 to 130V ac, 50/60Hz, 4 watts (excluding load)
220/240V models: 210 to 250V ac, 50/60Hz, 4 watts (excluding load)

Load Output:
500mA max. to 25°C, derated 1% per °C to 70°C; 7 amps max. inrush for 1 second or 20 amps max. for one cycle (non-repeating). On-state voltage drop less than 3V ac at full load. Off-state leakage current 100 microamps maximum.

Alarm Output:
200mA max. to 25°C, derated 2% per °C to 70°C; 2 amps max. inrush for 1 second or 5 amps max. for one cycle (non-repeating). On-state voltage drop less than 2V ac at full load. Off-state leakage current 100 microamps maximum.

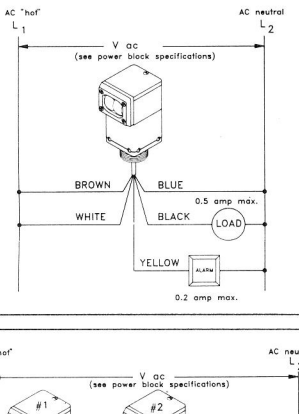
Functional Schematic, ac Power Blocks



Hookup to a Simple Load

OMNI-BEAM ac power blocks have two outputs. The LOAD output is isolated and can switch up to 0.5 amps. The ALARM output is tied internally to ac "hot" and can switch up to 0.2 amps.

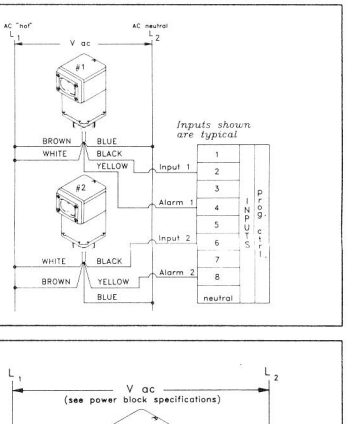
The ALARM output may either connect to the system logic controller, or directly switch an alarm.



Hookup to PLC

OMNI-BEAM ac power blocks are designed to directly interface to ac inputs of programmable logic controllers.

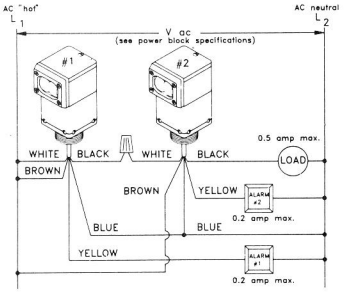
If the ALARM outputs of multiple OMNI-BEAMs are paralleled to a single input, then sensor block programming switch #2 must be in the "on" position (for normally open ALARM output) .



AC Sensors in Series

OMNI-BEAM ac power blocks may be wired together in series with each other for "AND" logic.

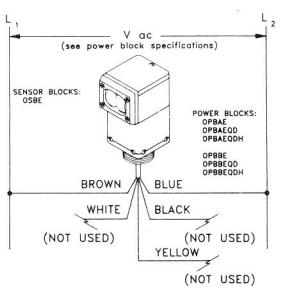
The total voltage drop across the series will be the sum of the individual voltage drops across each power block (approx. 3 volts per block). With most loads, 10 or more power blocks may be wired in series.



Hookup of Emitter

OMNI-BEAM emitter sensor blocks (model OSBE) simply require supply voltage to operate.

Power blocks *without* output circuitry are available for powering emitters. However, power blocks *with* output circuitry may also be used to power emitters (output circuitry will go unused).



Quick-disconnect Cables for OMNI-BEAM AC Power Blocks

Quick-disconnect cables are available in two styles: standard SO-type and micro ST-style*. They are ideal for use in situations where it is desireable to be able to substitute or replace the sensor and/or cabling.

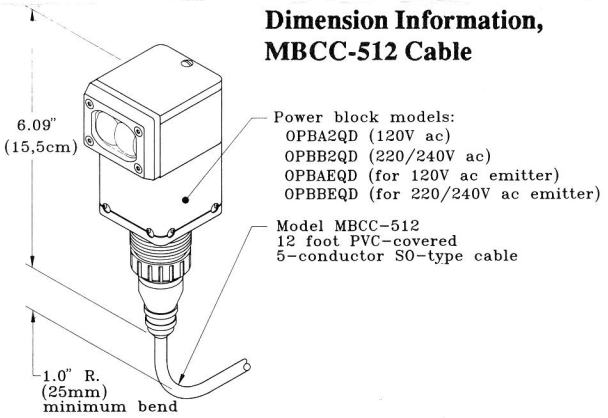
OMNI-BEAM AC power blocks use 5-wire cable.

Standard-style cables are 12 feet long; micro-style cables are 15 feet long. All quick-disconnect cables have 22 AWG conductors. Dimensional information is given in the drawings below.

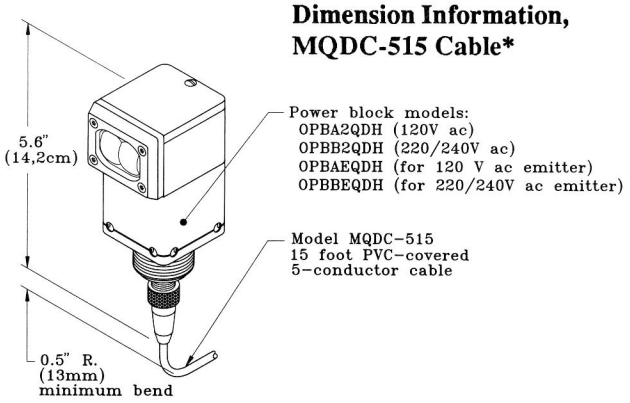
*Contact the factory for availability of micro QD models

Power Block Model	Use Cable Model
OPBA2QD OPBAEQD OPBB2QD OPBBEQD	MBCC-512
OPBA2QDH OPBAEQDH OPBB2QDH OPBBEQDH	MQDC-515*

Dimension Information, MBCC-512 Cable

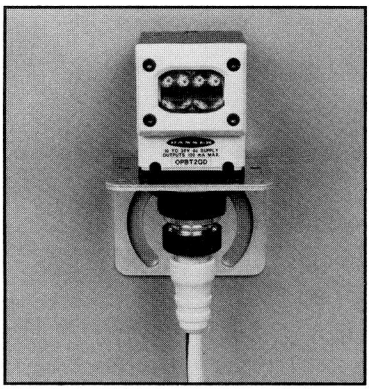


Dimension Information, MQDC-515 Cable*

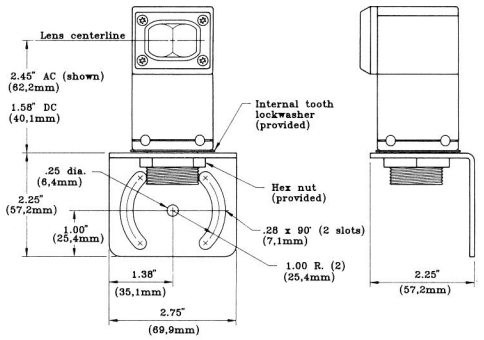


SMB30MM Mounting Bracket

Accessory mounting bracket model SMB30MM has curved mounting slots for versatility in mounting and orientation. The OMNI-BEAM mounts to the bracket by its threaded base, using a jam nut and lockwasher (supplied). The curved mounting slots have clearance for 1/4-inch screws. Bracket material is 11-gauge stainless steel.



SMB30MM Dimensions



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