



**Intellitec**

131 Eisenhower Lane N., Lombard, IL 60148  
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www.intellitec.com

**Protected FET 4 Channel DC Input / 6 Channel Solid-State Output**  
**00-00846-606/616 PMC Solid State I/O Module**

The PMC I/O Module 846-506/516 is a member of Intellitec's Programmable Multiplex Control family. It works in combination with the PMC CPU and other standard, semi-custom, or custom I/O modules.

The 506/516 provides power-fusing, switching, and distribution in one module. With it's six, solid-state, high-side outputs it is capable of controlling a total of 37 Amps. *Please refer to the tables in this brochure for proper load distribution.* The outputs are controlled by field effect transistors and are ideal for high use applications; such as flashing warning lights, turn signals and brake lights.

There are four input connections for rocker, limit, or sensor switches. Each individual input can be configured as either a low-side switch to ground, or a high-side switch to battery. Input information is directly communicated to the CPU via the PMC communications link. All of the input/output harnesses are connected with AMP Mate-N-Lok connectors to reduce installation time and errors.

*This module should be installed in a protected environment inside a vehicle.*

### **DIRECT CONNECT OUTPUTS 5 AND 6**

Direct Connection between inputs 7 and 8 and outputs 5 and 6 can be accomplished by setting dip switch 5 and 6 to the on position. When set for direct connect, the respective output will turn on within 1ms of receiving an input at 7 or 8. The purpose of the direct connect outputs is to eliminate the delay caused by communication with the CPU. This setting bypasses any boolean that may be written for these channels. Inputs at 7 and 8 may be High or Low side inputs.

### **DIAGNOSTICS AND LED INDICATORS**

Next to each output connection you will find a green LED. If the output is on, the LED will illuminate. If a fuse is blown and the output should be on, the LED will not illuminate.

A Red LED Illuminates when power is applied. When multiplex communications are present and correct, the COM LED will illuminate.

If the module's circuit board exceeds 100° C, all outputs will turn off protecting the module. The COM LED will flash indicating that an over temperature condition exists. After cool down, and after power is removed and reapplied the module will return to normal function. The module will record the number of times overheating has occurred and upon initial power up the LED will flash the number of times the module has been overheated.



Dimensions 5-3/4 X 5 inches

### **LOAD DISTRIBUTION**

Max load current per module 37 Amps

Max load current per output one through six, 10 amps

I = the current in amps

$$I_1^2/2 + I_2^2 + I_3^2 + I_4^2 + I_5^2 + I_6^2 \leq 200$$

*(Notice that for output one, the current squared is divided by two)*



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### SPECIFICATIONS

#### General Connections

Nominal Vehicle Voltage

Maximum Operating Temperature

Module Current

J1-1 Output Channel 1 20A

J1-2 thru J1-6 Output Channels 2-6 10A

J2-1 Communication Signal (from CPU) 16 awg Min.

J2-2 Communication Ground (from CPU) 14awg Min.

J3 Power Stud +12V size wire to support module load current

J4-1 Fused 12V out for positive switched inputs

J4-2-5 Input Channels 7-10

J5 Module Ground

00-00846-616

12V

65° C

37 Amps Total Max

00-00846-606

24V

65° C

37 Amps Total Max

3 Amps Max.

18 awg Min.

16 awg Min.

3 Amps Max

18 awg Min.

16 awg Min.

### CHANNEL DESIGNATIONS

Channel	Connection	Type
1-6	J1-1 thru J1-6	FET Output

#### Rating

Ch 1 15Amps Max, Ch 2-6 10 Amps Max  
@65° C Ambient. Use Channel 1 for highest  
amperage output. Do not exceed 37 Amps  
total or 200 per below.

$$I_1^2/2 + I_2^2 + I_3^2 + I_4^2 + I_5^2 + I_6^2 < 200$$

7-10 J4-2 thru J4-5 Input, Positive or Negative

Contact Intellitec for assistance determining of your particular load distribution will provide for a reliable design.

### MATING CONNECTIONS

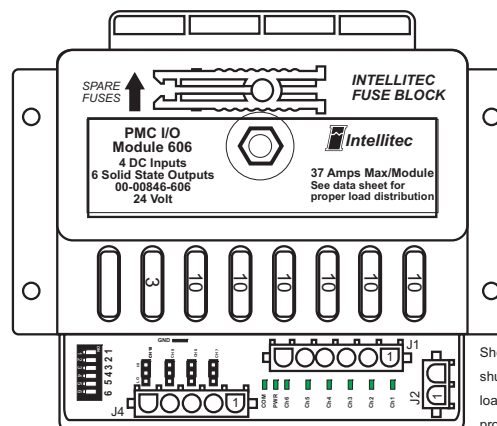
Designator	Function		Connector	Mating Part # for 14-18 AWG	Contact, Typical for 10-12 AWG
J1	Outputs	6 Pin Amp Mate-N-Lok	640585-1	350919-3	640310-3
J2	PMC/Com	2 Pin Amp Mate-N-Lok	1-480698-0	350919-3	640310-3
J3	Ground	.250 Tab Terminal			
J4	Inputs	5 Pin Amp Mate-N-Lok	1-480763-0	350919-3	640310-3

### MODULE SETTINGS

Module can be set for 1 of 16 address, A-P.

Set six dip switches per table on right. X = Switch is OFF

SWITCH	Module	SWITCH	Module
6 5 4 3 2 1	Address	6 5 4 3 2 1	Address
0 0 0 0	A	X 0 0 0	I
0 0 0 X	B	X 0 0 X	J
0 0 X 0	C	X 0 X 0	K
0 0 X X	D	X 0 X X	L
0 X 0 0	E	X X 0 0	M
0 X 0 X	F	X X 0 X	N
0 X X 0	G	X X X 0	O
0 X X X	H	X X X X	P



Short circuit protected FETs  
shut off in the event of a shorted  
load. Fuses or circuit breakers  
provide redundant protection.

Turning switch 5 on causes Output Ch 5 to be operated directly from Input Ch 7 (Acts like a relay)

Turning switch 6 on causes Output Ch 6 to be operated directly from Input Ch 8 (Acts like a relay)

Four inputs Channel 7-10 can be individually set for either positive (high-side) switched to the battery, or negative (low-side) switched to ground.