Intellitec
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PMC Sealed Protected FET Output Module and Lamp Dimmer Control Output Modules

00-00888-600/610/604/614

The PMC Output Modules 00-00888 are members of Intellitec's Programmable Multiplex Control family. They work in combination with the PMC CPUs and other standard, semi-custom, or custom I/O modules. These modules provide protected solid-state outputs eliminating the need to add fuses or circuit breakers on each output. In addition, the -604/614 modules provide the capability of dimming lights that are connected to outputs 5-10.

The modules provide power switching, circuit protection and distribution. Switching is accomplished via long life, field effect transistors instead of relays. Circuit protection is accomplished by using short circuit protected FETs and proprietary design elements. Each output will handle 10 Amps. The total module current is limited by the *"I squared rule"* on the following page.

The approximate module dimensions are 6.6" X 4.250" X 1.75" (16.8mm X 10.8mm X 4.4mm). These modules are water-proof and can be located where moisture may be present.

The 888 module can be set for module addresses, A-P. *Using the chart on the next page, connect jumpers in the plug, J1.*

PWM PROVIDES VARIABLE POWER (PULSE WIDTH MODULATION)

The 888-600 and 610 modules do not have dimmable outputs.

The 888-604 and 614 modules provide the ability to dim lights from any Intellitec multiplex keypad or momentary switch input. Channels 5-10 on the -604 and -614 are dimmable outputs.

This module dims the lights using pulse width modulation or PWM. Variable power is applied to the load by quickly turning the power on and off. Varying the duty cycle will vary the intensity of the lamp.

The six outputs coming out of J3(ch 5-10) will operate to dim lights. The four outputs coming out of J2 (ch 1-4) are not dimmable so can be used to power loads such as water pumps or flourescent lights that should not be connected to variable voltage.

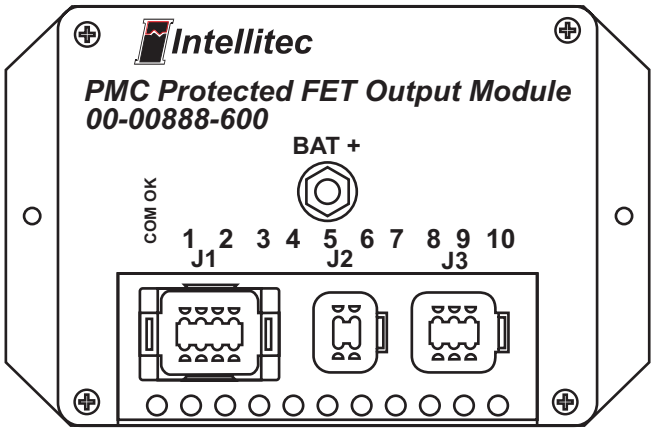
For the dimmable outputs, the output will latch on at the output module. To turn the output on, all that is required is that it's channel be turned on momentarily. When the channel comes on, the output turns on and latches. When the channel turns off, the output remains latched until the channel turns on again, at which time the output turns off.

VERSION 00-00888-600 AND 610 non dimmable

The outputs on these units will operate as any other PMC output. To keep the output on, it's channel must be on.

OPERATING EXAMPLE FOR DIMMABLE OUTPUT

If the lighting output channel is B3 and a momentary push button is placed at D5 you could write a boolean such as B3=D5. When momentary button D5 is pressed and released output B3 will turn on at 100% intensity and remain on even though switch channel D5 is off. When D5 is pressed and released a second time, output B3 will turn off.



This happens because the output is latched on and off at the module. When button D5 is pressed and held, the output will begin to ramp up, increasing the lamp intensity. When the button is let go, the lamp will remain at that intensity. Pressing and holding the button a second time will cause the intensity to begin ramping down. When the button is released, the lamp will remain at that intensity. Pressing and releasing the button quickly will cause the output to toggle off. If power has been maintained at the module, the output will remember it's last intensity setting.

Programming a global reset of latched dimmable channels

Because the dimmable channels latch on or in other words can be on when the associated PMC channel is off, Intellitec has provided channel P1 as a global reset channel.

If one or more out puts on one or more modules is latched on, they can all be turned off by momentarily turning on PMC channel P1. This could be accomplished in two ways. A momentary push button on the Intellitec keypad could be set to channel P1. By pressing this button all latched outputs will turn off. An alternative would be to write a boolean that momentarily turns channel P1 on when another input is turned on.

LED DIAGNOSTIC INDICATORS

A row of diagnostic LEDs has been provided on the module. The first LED will be on when the module receives a valid PMC communications signal. LEDs 2-11 will illuminate when their associated output is on.

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SPECIFICATIONS

	Non-dimmable outputs		Dimmable outputs	
Modules	**00-00888-600**	**00-00888-610**	**00-00888-604**	**00-00888-614**
Nominal Vehicle Voltage	24V	12V	24V	12V

NOTES:

Outputs do not latch. The associated PMC channel must be kept on to keep an output on.

Dimmable outputs 5-10, latch on and off when their associated PMC channel is momentarily turned on.

For non dimmable outputs the associated PMC channel must be kept on to keep the output on.

General Connections

J1-1	No Connection	
J1-2	Communications Signal + (from Master or CPU)	16 Awg Min.
J1-3	Communications Signal - (from Master or CPU)	14 Awg Min.

CHANNEL DESIGNATIONS

Channel	Connection	Type	Rating
1	J2-1	FET Output	10 Amp Max **
2	J2-2	FET Output	10 Amp Max **
3	J2-3	FET Output	10 Amp Max **
4	J2-4	FET Output	10 Amp Max **
5	J3-1	FET Output	10 Amp Max **
6	J3-2	FET Output	10 Amp Max **
7	J3-3	FET Output	10 Amp Max **
8	J3-4	FET Output	10 Amp Max **
9	J3-5	FET Output	10 Amp Max **
10	J3-6	FET Output	10 Amp Max **

"I SQUARED RULE"

** Total module current is limited by the following. The sum of the current squared for each output may not exceed 350.

$$I1^2+I2^2+I3^2+I4^2+I5^2+I6^2+I7^2+I8^2+I9^2+I10^2<350$$

Failure to follow this rule may cause module failure.

MATING CONNECTIONS

Designator	Function	Connector	Mating Part #
Stud	Battery	1/4" Ring Term	
J1	Communication and address	Deutsch DT04-8PA	Deutsch DT06-08SA
J2	Outputs	Deutsch DT04-4P	Deutsch DT06-04S
J3	Outputs	Deutsch DT04-6P	Deutsch DT06-06S

MODULE SETTINGS

A module can be set for 1 of 16 addresses or A-P. This is done with wire jumpers from pin J1-4 to pins J1-5 through J1-8 as listed in the table shown here. This makes the method of setting the address waterproof.

1 = connect to J1-4

This method of address setting vs dip switches or jumpers provides the additional advantage of having the module address set by the harness. Replacement parts do not require that the address be set prior to shipment.

J1-4 connected to J1-5 8 7 6 5	MODULE Address
1 1 1 1	A
1 1 1 X	B
1 1 X 1	C
1 1 X X	D
1 X 1 1	E
1 X 1 X	F
1 X X 1	G
1 X X X	H

J1-4 connected to J1-5 8 7 6 5	MODULE Address
X 1 1 1	I
X 1 1 X	J
X 1 X 1	K
X 1 X X	L
X X 1 1	M
X X 1 X	N
X X X 1	O
X X X X	P