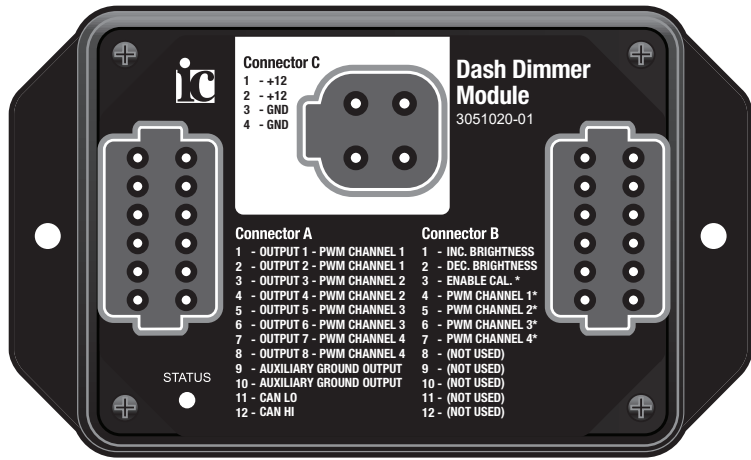




# 3051020-01 HME Dash Dimmer Module



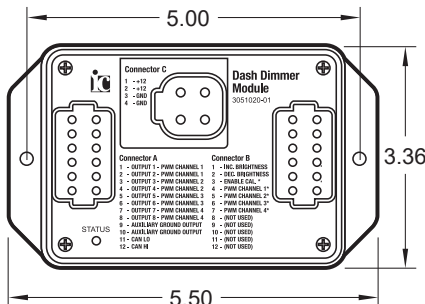
The 3051020-01 HME Dash Dimmer Module is used to balance the light level brightness between different backlight devices located in the truck cab. The module translates the user's brightness control setting into four output channels with individually calibrated brightness levels. The result is a cab with balanced backlighting that is more aesthetically pleasing. The module has a factory floor calibration mode that stores the maximum brightness levels for each of the four output channels. During operation the non-volatile stored scale factors are used to provide balanced brightness across the cab backlight devices.

The backlight brightness is controlled using pulse width modulated (PWM) 12V high-side outputs. The user control switch adjusts the brightness in 10% increments. An optional CAN interface is available for automatic brightness control and calibration. A red/green status LED provides at-a-glance feedback on the state of the Dash Dimmer module.

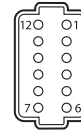
## FEATURES

- Translates user controlled dimmer brightness setting into four independently calibrated PWM output channels
- 4 PWM channels used to control 8 discrete outputs rated up to 13A each. Total output current limited to 50A due to input power connector
- PWM outputs are fully protected from over-current, over-voltage, and voltage transient condition
- 2 discrete inputs for dimmer brightness control
- 5 discrete inputs used to calibrate PWM channels max brightness levels
- 5 spare discrete inputs
- 2 auxiliary ground pins can be used for backlight ground returns
- Wide operating voltage range of 7 to 40 VDC ensures module remains active during vehicle electrical system power disturbances
- Optional SAE J1939 CAN interface that operates at 250K or 500K
- Watertight Deutsch connectors
- 40C to +85C (-40F to +185F) AEC-Q100 Grade 3 Operating Temp.

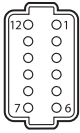
## DIMENSIONS



**CONNECTOR A**  
OUTPUTS 1-8 HIGH SIDE  
PWM, CAN OPTION,  
AUXILIARY GROUNDS  
Deutsch DT15-12PA



**CONNECTOR B**  
CAN, INPUTS 1-6,  
OUTPUTS 10-11  
HIGH SIDE  
Deutsch DT15-12PB



Terminal	Description
1	OUTPUT 1 - PWM CHANNEL 1
2	OUTPUT 2 - PWM CHANNEL 1
3	OUTPUT 3 - PWM CHANNEL 2
4	OUTPUT 4 - PWM CHANNEL 2
5	OUTPUT 5 - PWM CHANNEL 3
6	OUTPUT 6 - PWM CHANNEL 3
7	OUTPUT 7 - PWM CHANNEL 4
8	OUTPUT 8 - PWM CHANNEL 4
9	AUXILIARY GROUND OUTPUT
10	AUXILIARY GROUND OUTPUT
11	CAN LO
12	CAN HI

Mating connector is Deutsch DT06-12SA with W12S wedgelock

Terminal	Description
1	INPUT 1 - INCREASE BRIGHTNESS
2	INPUT 2 - DECREASE BRIGHTNESS
3	INPUT 3 - ENABLE CALIBRATION *
4	INPUT 4 - PWM CHANNEL 1 ADJUST *
5	INPUT 5 - PWM CHANNEL 2 ADJUST *
6	INPUT 6 - PWM CHANNEL 3 ADJUST *
7	INPUT 7 - PWM CHANNEL 4 ADJUST *
8	INPUT 8 - (NOT USED)
9	INPUT 9 - (NOT USED)
10	INPUT 10 - (NOT USED)
11	INPUT 11 - (NOT USED)
12	INPUT 12 - (NOT USED)

Mating connector is Deutsch DT06-12SB with W12S wedgelock

**CONNECTOR C**  
POWER INPUT  
Deutsch DTP15-4P



\* only used during factory calibration

Terminal	Description
1	+12VDC POWER INPUT FOR CONTROL AND OUTPUTS 1-9
2	+12VDC POWER INPUT FOR OUTPUTS 10-11
3	GROUND INPUT
4	GROUND INPUT

Mating connector is Deutsch DTP06-4S with WP-4S wedgelock

DOC.7000021 REV.A

# TECHNICAL SPECIFICATIONS

<b>Operating Voltage</b>	7 to 40 VDC
<b>Current Consumption</b>	40mA
<b>Operating Temperature</b>	-40C TO +85C (-40F TO +185F)
<b>Storage Temperature</b>	-40C TO +85C (-40F TO +185F)
<b>Ingress Protection</b>	IP67 rated enclosure
<b>Electrical Protection</b>	Reverse voltage polarity protection on all connections. Internal thermal fuses. CAN Bus protected to 24V. ESD protected to J1113-13 specifications. Transient voltage protected to J1113-11 and J1113-42. Output and input circuits are both protected from reverse polarity. Over-current, over-voltage, and voltage transients.
<b>Inputs</b>	6 auxiliary inputs with selectable polarity.
<b>Outputs</b>	8 high side PWM outputs rated at 13A using 4 PWM channels.
<b>CAN Interface</b>	SAE J1939 CAN 2.0B ports operating at 250K or 500K
<b>Dimensions</b>	5.72" x 4.77" x 1.55"

## HME DASH DIMMER MODULE 3051020-01

