INTELLI TOW™

Description:

Is an electronic module that fits in a standard 4/7 pin mounting opening while providing control and diagnostics for the trailer lighting and battery charge circuits. This module offers an environmentally protected housing with the standard four and seven pin trailer connectors. The outputs can be controlled using the vehicle communications bus or discrete inputs. The outputs are solid state high-side drivers offering diagnostics feedback for both short circuit protection and open circuit detection for running lights, right turn/brake, left turn/brake lights, reverse, and battery outputs. Seamlessly integrates with electronic braking as a pass-through circuit

Features:

- Standard 4 and 7 pin trailer connectors
- Real time lighting and battery charge diagnostics:
  - Short circuit protected outputs with driver alert
  - Open circuit detection with driver alert
- CAN, LIN, Custom Bus or Discrete Control
- Fully environmentally resistant package
- Drop-in replacement for existing pass through connector

Optional Features:

- Discrete inputs - very low load input for right turn, left turn, running lights, reverse and submersion expected – light shutdown to protect bulbs on trailer
- Communications expansion:
  - Full transport layer support
  - Network management
- Flash memory updates over the network
- History in EEPROM of trailer faults (pseudo “black box” function for trailer lights)

Benefits:

- **Increased safety**
- **Real-time trailer load diagnostics on existing vehicle network**
  - Estimates > **17% of trailers** on the road today **have lighting issues** due to intermittent connections or failures in the trailer and connection.
- **Increased vehicle reliability** – **short circuit protected outputs**
  - No need to unplug trailer connection when backing into lake to avoid fuse blow on vehicle (trailer lighting can still be damaged if trailer lamp housing integrity is not intact)
  - Reduced corrosion of vehicle side trailer connectors
- **Simpler vehicle packaging and wiring**
- **Solid state systems solution** for trailer lighting **without loading** the vehicle turn signals
- **Eliminates relay noise**
- **No 7 pin to 4 pin adapter required**

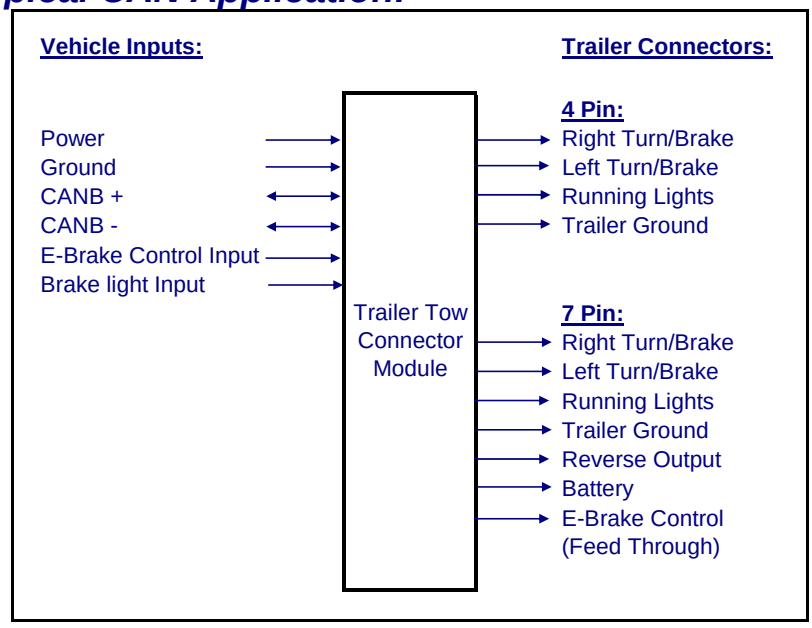
IntelliTow™ Specifications:

- Weight < 275gm
- -40 – 85°C ambient – exterior mount near hitch
- Communications – CANB/LIN/Other or discrete
- Sleep Current < 250uA - wake up on communications or discrete input

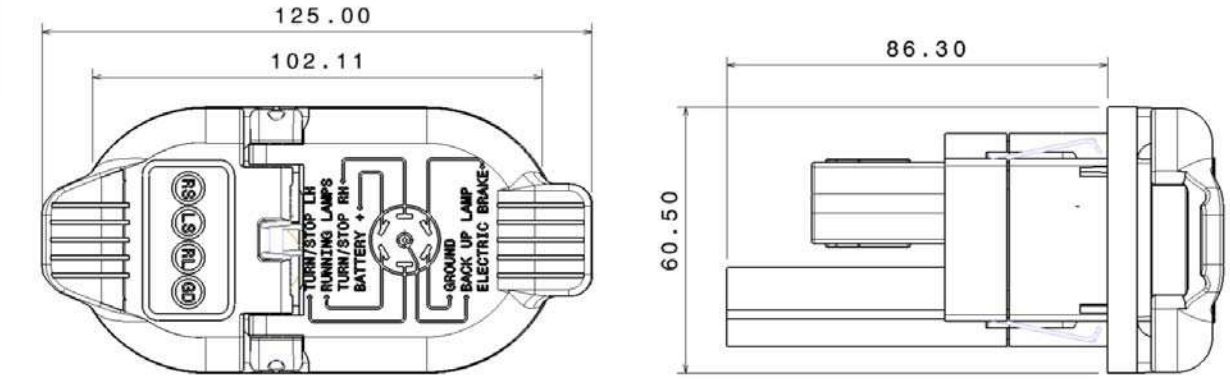
Connector Pin out/Description:

Pin number (ref Only)	Function	Comment
A1	Battery	10 ga wire, 9.5mm terminal
A2	Ground	10 ga wire, 9.5mm terminal
A3	CANB + IN	CAN termination if desired
A4	CANB + out	CAN termination if desired
A5	E-Brake Control Input	18A control pass through
A6	Brake light in	Brake = RTS and LTS
4 pin 1	Right Stop/Turn	7A current limit high-side = 10A fusing
4 pin 2	Left Stop/Turn	7A current limit high-side = 10A fusing
4 pin 3	Running Lights	21A current limit high-side = 30 A fusing
4 pin 4	Trailer Ground	
7 pin 1	Right Stop/Turn	7A current limit high-side = 10A fusing
7 pin 2	Left Stop/Turn	7A current limit high-side= 10A fusing
7 pin 3	Running Lights	21A current limit high-side= 30A fusing
7 pin 4	Trailer Ground	
7 pin 5	Reverse Output	7A current limit high-side = 10A fusing
7 pin 6	Battery	21A current limit high-side – load shedding
7 pin 7	E-Brake Control	Feed Through Only - No Braking Control

Typical CAN Application:



Outline/Dimension:



Status: Ready for Commercialization

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