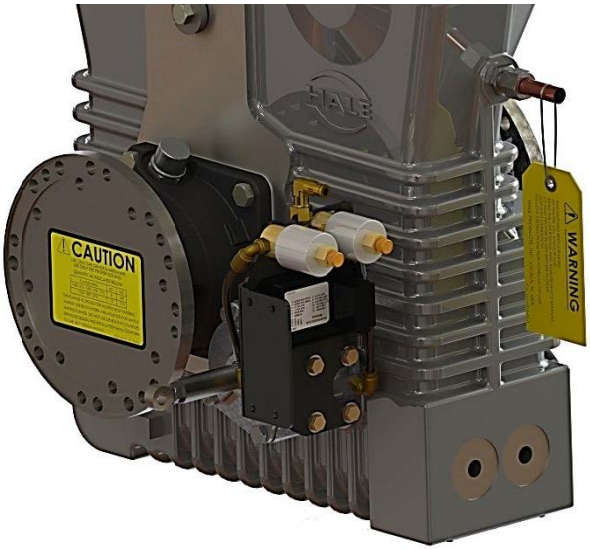
Shift Interlock Module

Data Sheet

The shift interlock module integrates innovative Class 1 electronics to Hale's reliable G gearbox. The module exceeds the latest NFPA requirements for NFPA 16.10.1.4 by reducing shifting errors when the apparatus transmission is not safely placed into neutral. Whether shifting into road or pump, the interlock module simplifies the integration of shifting into electronic or multiplexed systems. The electronic shift interlock module simplifies installation, increases fire fighter safety by preventing run away truck conditions, and prevents costly equipment damage caused by hot shifts.



FEATURES	BENEFITS
Pump engaged Interlock	• Prevents pump from being shifted from pump mode to road mode unless the apparatus is in neutral, ensuring apparatus is not put into road mode creating a runaway condition. Meets NFPA 1901, 2016 Edition.
Road mode Interlock	• Prevents pump from being shifted from road mode to pump mode while apparatus is in gear. Protects transmission from costly damage caused from hot shifting.
Shift delay	• Internal delay allows driveshaft to stop in order to minimize mis-shifts.
Retrofittable	• Unit can be added to in-service apparatus to bring them up to NFPA 1901 16.10.1.4, 2016 Edition and provide the user with the added safety features of the interlock.
Digitized Shift Control	• Unit can be controlled electronically and integrated simply into multiplexed systems.
Integrated Gearbox Mount	• Places all the electronics and control close to the gearbox minimizing harness and connection points.
Optional Control	• Can be ordered to be controlled by a standard air control valve or with electronic switches.

Interlock retrofit kit for use with industry standard air control valve
Part Number: **546-00052-100**

Interlock retrofit kit to use with electronic switch
Part Number: **546-00052-200**

When ordering the shift interlock module with a new pump there are options available to add the module when configuring shift control. The new choices available on the order forms for pumps with G gearboxes include:

1. Split shaft with interlock module (air) without control valve
2. Split shaft with interlock module (air) with control valve
3. Split shaft with interlock module (electric) without control valve

Mating connector: Deutsch DT06-12SA
Mating sockets: Deutsch 0462-201-16141
Wedge lock: Deutsch W12S
Plug Seal: Deutsch 114017
Recommended wire gage: 16-18 AWG

PIN	CIRCUIT	DESCRIPTION
1	SUPPLY (+)	(INPUT) – battery voltage (+9VDC…+32VDC)
2	CAN HIGH	(DATA) – SAE J1939 CAN 2.0B, 250Kbits/s
3	Aux Output 1	(OUTPUT) – Reserved
4	Aux Output 2	(OUTPUT) – Reserved
5	Pump Solenoid	(OUTPUT) – Output to pump solenoid
6	Road Solenoid	(OUTPUT) – Output to road solenoid
7	Aux Output 0	(OUTPUT) – Reserved
8	Pump Switch	(INPUT) – Signal to shift to pump mode
9	Road Switch	(INPUT) – Signal to shift to road mode
10	Neutral Switch	(INPUT) – Input for neutral interlock
11	CAN LOW	(DATA) – SAE J1939 CAN 2.0B, 250Kbits /s
12	SUPPLY (-)	(INPUT) – battery ground

Product category	ES-Key
Voltage range	+9VDC…+32VDC
Power consumption @13.8VDC (25ºC) @27.6VDC (25ºC)	 30 mA 50 mA
Operational temperature range	-40ºC…+85ºC
Environmental range	IP 67
CAN specification	SAE J1939 proprietary, 250 Kbits/second
Protection	Internal thermal fuse Reverse voltage protection (pins 1 and 12 of connector) CAN buses protected to 24V ESD voltage protected to SAE J1113 specifications Transient voltage protected to SAE J1113 specifications
Dimensions (W x H x D) in inches [mm]	3.500 [88.90] x 2.096 [53.24] x .880 [22.35]