CANBUS I/O EXPANSION MODULES

MODELS 1352 eXM / 1353 eXM

CURTIS

1352

1353

DESCRIPTION

The Curtis Model 1352 and 1353 CANbus I/O expansion modules provide accurate control of up to 9 proportional hydraulic valves, or can be used to add other digital and analog I/O to any CANopen based control system.

APPLICATION

Expands I/O capabilities on any CANopen vehicle control system. Typically used on materials handling trucks, aerial lift platforms, airport ground support equipment, compact construction equipment and sweeper-scrubber floor care machines.

FEATURES

Models 1352 & 1353

- Configurable CANbus connection allows communication with other CANbus enabled devices.
- Multi-purpose I/O pins in a compact, low cost, rugged module.
- Short circuit protection on all output drivers.
- Analog inputs can also be used as virtual digital inputs with programmable On/Off thresholds and variable filters.
- Built-in programmable dither amount & frequency allow precise hydraulic proportional valve positioning.
- All outputs can also be used as 'active high' digital inputs.
- Constant current or constant voltage output modes provide accurate control.
- Built-in coil flyback diodes reduce voltage spikes when driving inductive loads/coils.
- Externally viewable status LEDs.
- Support of 12–36V or 36–80V nominal supply voltages.
- IP 65 sealing, positively latched I/O connectors (AMPSeal: 14 pin 1352, 23-pin 1353).
- 12–36V models are suitable for use on internal combustion engine applications.

Model 1352

- Nine multi-purpose I/O pins.
- Six high-frequency 3A PWM proportional valve driver outputs.
- Up to 6 digital inputs.
- Three analog inputs, two of which can be enabled for resistance measurement.

MODELS 1352/1353

FEATURES cont'd

Model 1353

- Fifteen multi-purpose I/O pins.
- Nine high-frequency 3A PWM proportional valve driver outputs.
- Six analog inputs which can be enabled for voltage or resistance measurement.
- Analog inputs support connections of up to two quadrature encoders.
- 12V unregulated, +5V regulated 200mA (total) protected DC output supplies.
- Serial port option to allow direct programming by Curtis 1313 / 1314 programming devices.

SPECIFICATIONS

Meets or complies with relevant US and International Regulations:

EMC: Designed to the requirements of EN12895

Safety: Designed to the requirements of:

EN1175-1:1998+A1:2010

EN (ISO) 13849-1

IP65 Rated per IEC 60529

Model 1352 recognized per UL583 (1353 UL583 recognition pending).

Regulatory compliance of the complete vehicle system with the controller installed is the responsibility of the vehicle OEM.

FUNCTIONAL SAFETY DATA CHART

Safety Function	PL	Designated Architecture	MTTFd	DC%
Incorrect Measurement Transmission	C	Category 2	>30 yrs	>60
Un-commanded Output	C	Category 2	>30 yrs	>60

MODEL CHART

Model	I/O Pins	Voltage	Digital Inputs*	PWM Outputs*	Analog Inputs*	Encoder Inputs*	Serial Port	5V & 12V External Power Supply
1352-4001	9	12–36	6	6	3	N/A	No	No
1352-6001	9	36–80	6	6	3	N/A	No	No
1353-4101	13	12–36	9	9	4	2	Yes	Yes
1353-6101	13	36–80	9	9	4	2	Yes	Yes

*Max available, final count depends on configuration.

SYSTEM ACCESSORIES

Curtis Models 1236E and 1238E provide advanced control of AC induction motors performing on-vehicle traction drive or hydraulic pump duties.

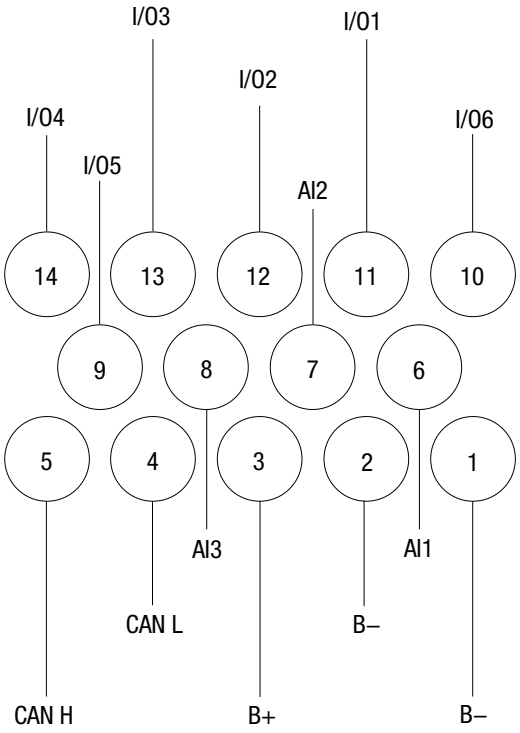
The Curtis Model 1222 is an AC induction motor controller for 'steer by wire' electric power steering systems.

The Curtis Model 1313 Handheld Programmer is ideal for setting parameters and performing diagnostic functions.

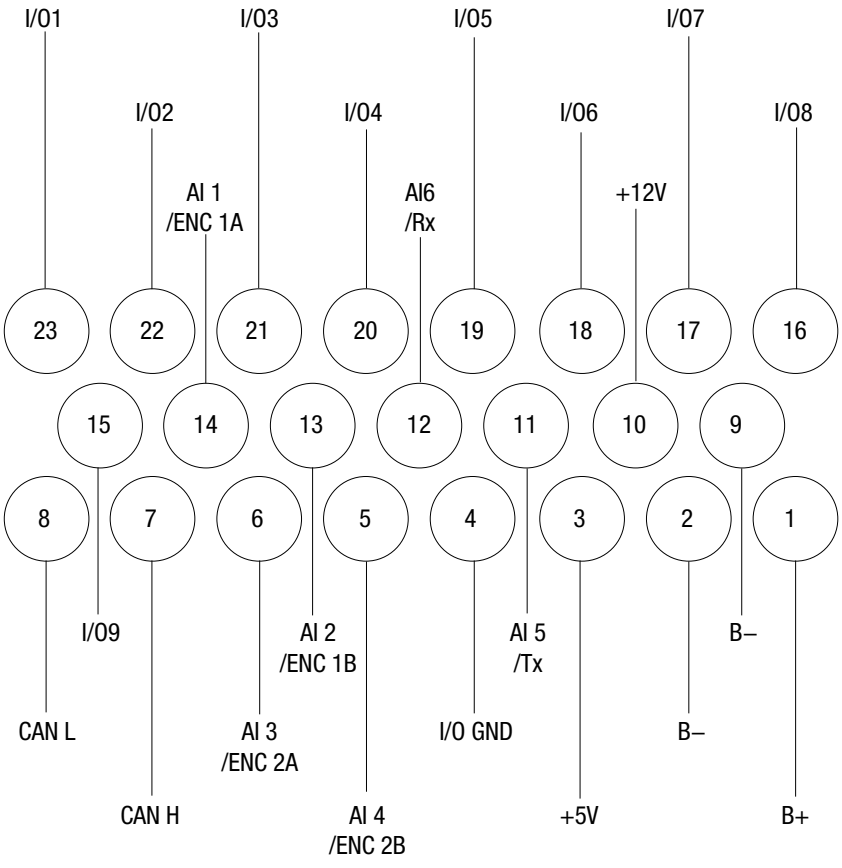
Contact Curtis to obtain the VCL Vehicle Control Language compiler and development tools.

CONNECTOR WIRING DIAGRAM

1352



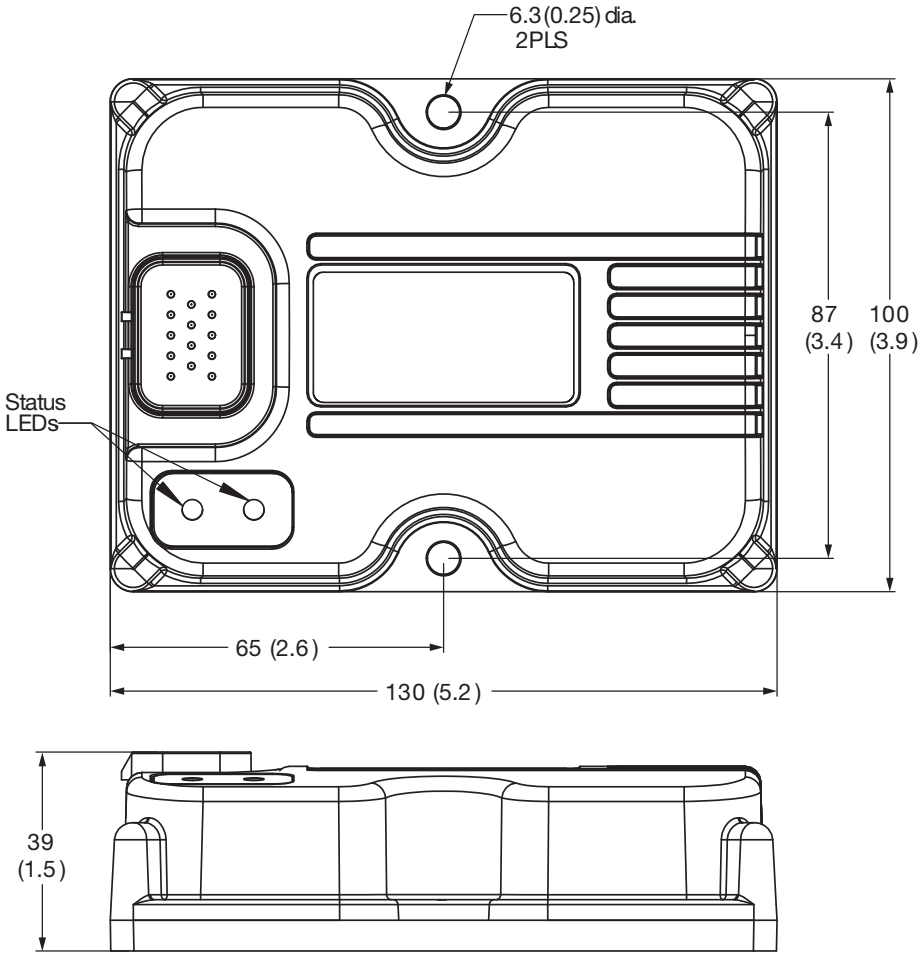
1353



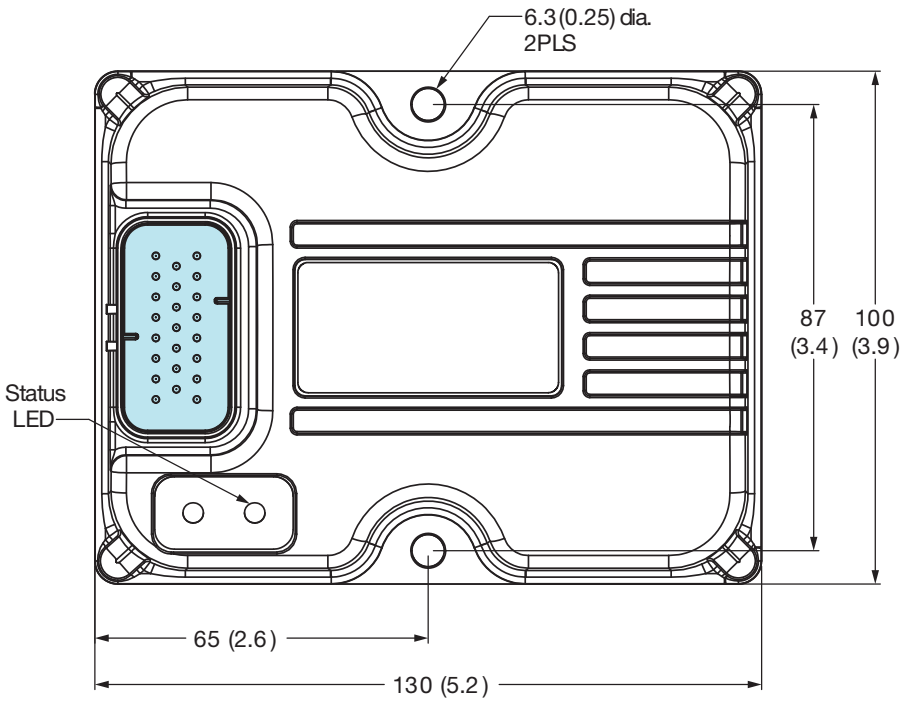
MODELS 1352/1353

DIMENSIONS mm

1352

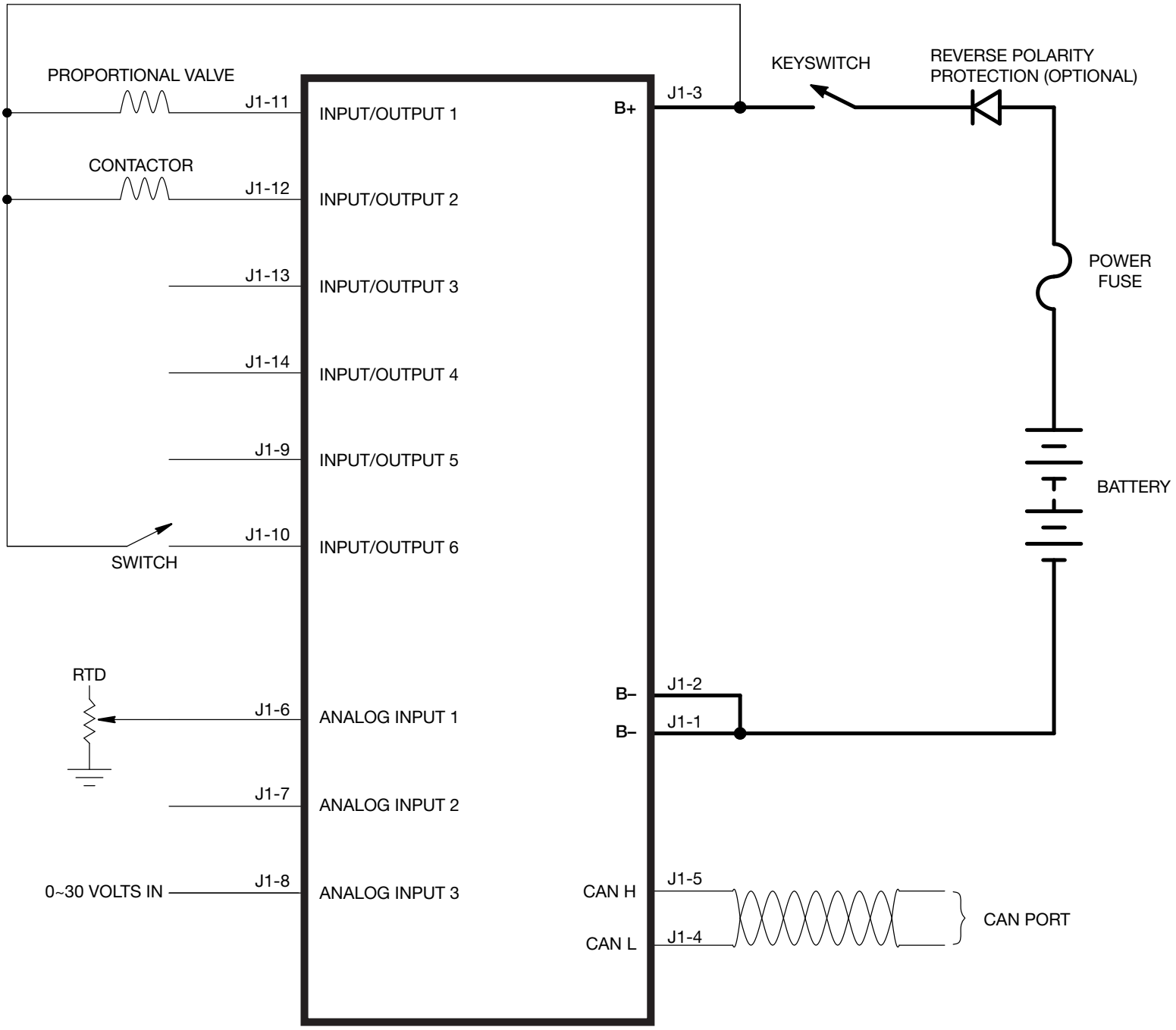


1353



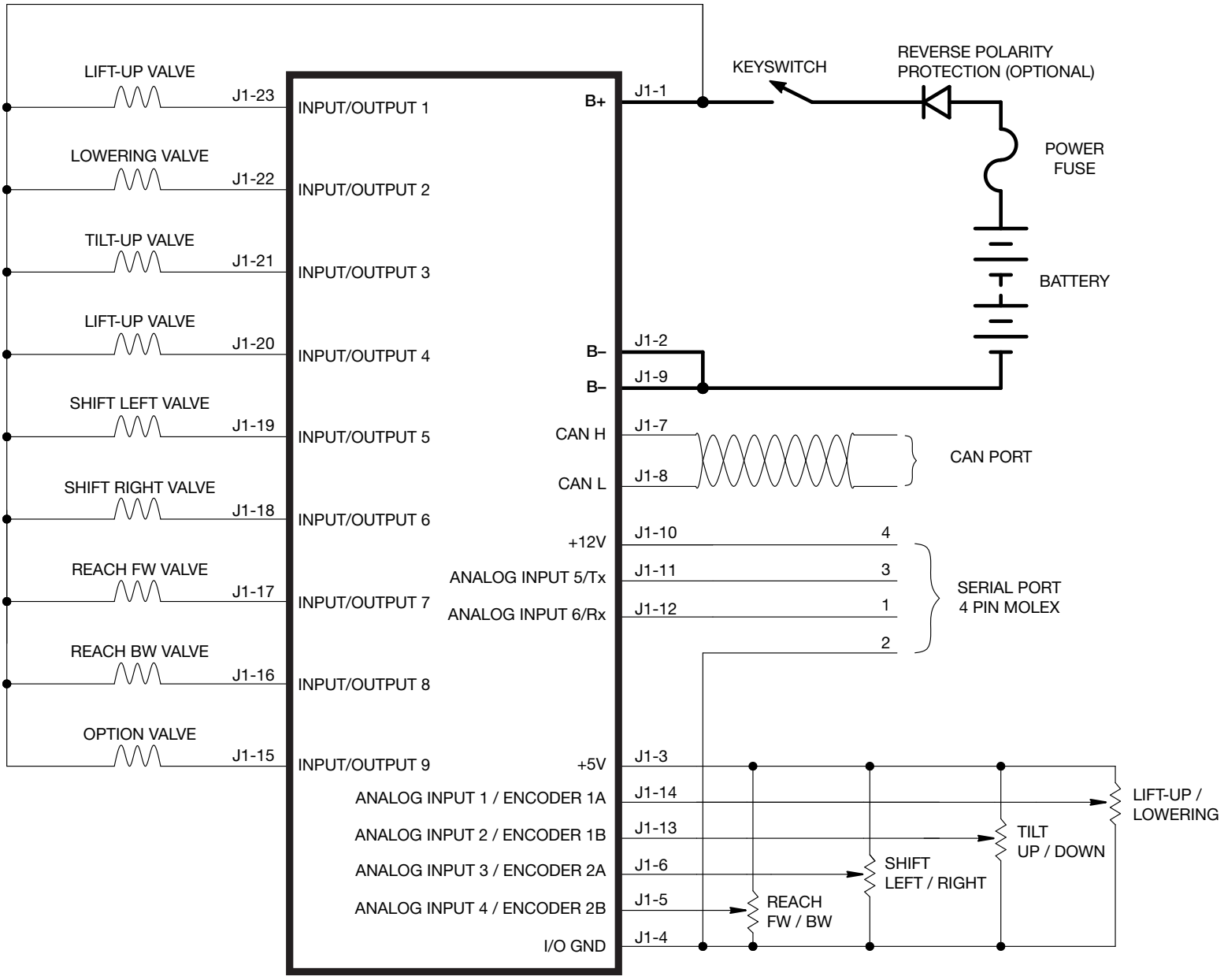
TYPICAL WIRING DIAGRAM

1352



TYPICAL WIRING DIAGRAM

1353



WARRANTY Two year limited warranty from time of delivery.

1960 · 2015 55 YEARS CURTIS