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# Transmission Shifters

By-Wire-Shift Controls and Mechanical Shifters

# Curtiss-Wright Industrial Division

**Curtiss-Wright Industrial Division is a recognized leader in providing components and sub-systems that enable customer specific solutions for on-highway and off-highway vehicles.**

These include material handling, construction, agricultural and other specialty vehicles, plus medium- and heavy-duty trucks, buses, and motor coaches, as well as sophisticated wheelchairs and scooters for medical mobility.

We are a leading provider of electronic throttle controls, transmission shifters, and sensors addressing the long-term trend across the globe towards attaining higher fuel efficiency and lower emissions. We are also addressing new energy solutions for a greener environment by providing advanced motor controllers and power electronics for hybrid and electric vehicles. In an effort to improve vehicle safety and operator efficiency, we also supply various human interface and operator controls that act seamlessly in today's modern cab environment.

## Why Choose Curtiss-Wright?

### Extensive Experience

Curtiss-Wright Industrial Division has established a leading position in various markets by being highly responsive to specific customer requirements. This diverse application knowledge base includes for following markets related to transmission shifters:

- On-Highway Vehicles
- Off-Highway Vehicles
- Materials Handling
- Defense
- Electric / Hybrid Vehicles
- Personal Recreational Vehicles.



### Innovative Products

We are proud of our legacy spanning over 85 years, providing customer specific solutions to market leading OEMs.

Using our applications engineering expertise with customer development teams, we enable a free flow of ideas that provide the most reliable and cost effective product solution to each unique application.

### Reliable Partner

We have long-term relationships with many of the industry-leading OEMs. Whether customizing an existing product to better suit an application, or creating completely new concepts to address an OEM specification, our global team of engineers are ready for the challenge.

Our engineers will work directly with your team to determine what is needed for a successful outcome.

### Global Support

Curtiss-Wright Industrial Division has a global footprint, with design and manufacturing in the USA, the United Kingdom, China and India. This is backed by our own sales and technical support teams in over 45 other countries, ensuring exceptional levels of efficiency, quality and on-time delivery.

## Transmission Shifters

Curtiss-Wright is proud to manufacture the most popular shifters for Automatic and Automated Manual Transmissions used in Medium & Heavy-Duty vehicles in the world. Each design is grounded firmly in our decades of engineering excellence, reliable manufacturing processes, and industry leading on-time deliveries.

As market leaders in shifter design, our team understands the importance of style, ergonomics and durable, long-life construction. This has led our team to develop a broad selection of cable-operated transmission shift controls and shift-by-wire transmission controls and systems for automatic, automated manual and hydrostatic transmissions.

This diverse portfolio is divided into two categories: Electronic (By-Wire) shift controls and Mechanical (Push/Pull Cable) Shifters.

### Typical Applications

Transmission shifter options include both low-cost and heavy-duty designs, as well as custom designs to meet any application requirement.

Typical Applications Include:

- Medium-Duty Trucks
- Heavy-Duty Trucks
- Buses and Motor Coaches
- Electric / Hybrid Vehicles
- Construction Vehicles
- Agricultural Vehicles
- Material Handling
- Defense
- All-Terrain Vehicles
- Personal Recreational Vehicles (PRVs)
- Vocational Vehicles
- Other Specialty Vehicles.



# Transmission Shifters Portfolio

## Electronic (By Wire) Shifters

Curtiss-Wright has a wide range of electronic shifters suitable to meet a variety of environments whether that is on road, off road, medium duty, or heavy duty. The range includes push buttons, lever, and strip switch shifters, each having several options that can accommodate the amount of positions and communication needs of the application. CW has created a multitude of unique shifter styles to meet customer specific industrial design, packaging requirements, additional features, etc.

These shifters can also be used in electric vehicle applications that do not have a transmission.

## Mechanical (Push/Pull Cable) Shifters

Curtiss-Wright offers a broad range of cable operated transmission shifters for a variety of transmissions with shift shafts\*. These shifters can be supplied with or without a cable as well as the associated transmission kit if necessary. Several mechanical shifters have been optimized for customer applications to add features like a reverse switch, or park solenoid, and a host of other features.



## Electronic (By-Wire) Shifters



### Specifications

Description	Strip Switch	CAN Pushbutton	T80G Series
<b>Electrical</b>			
Supply Voltage	9-32VDC	9-32VDC	9-32VDC
Vehicle Connector	Deutsch DTM	Aptive (Delphi)	Deutsch DTM
Backlight LED's	White	White	White
Gear Selection Indicator	Green LED's	OLED Display	Green LED's
Communication	CAN J1939	CAN J1939	CAN J1939/P-
Software	Configurable	Configurable	WM
<b>Mechanical</b>			
Cycle Life	1,000,000	1,000,000	2,000,000
Positions	3 or 4	6 or 7	up to 6
Size (mm)	136 x 45 x 77	144 x 84 x 52	296 x 80 x 169
Mounting	Snap in	Mounting Bracket	Mounting Bracket
Options	Vertical or Horizontal, I/O	I/O	Single or Dual
<b>Environmental</b>			
Operating Temp	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Seal Rating	IP6K7	IP6K7	IP6K7
Salt Spray	96 hours	96 hours	96 hours

Electronic (By-Wire) Shifters



Specifications

Description	Shift by Wire	CAN Actuator*
<b>Electrical</b> Supply Voltage Vehicle Connector Backlight LED's Gear Selection Indicator Communication Software Options	9-32VDC Aptive (Delphi) Amber LED Display CAN J1939 Configurable I/O	9-32VDC Deutsch DT N/A N/A CAN J1939 Configurable Park and non-Park
<b>Mechanical</b> Cycle Life Positions Size (mm) Mounting	2,000,000 4, 6 or 7 174 x 84 x 57 Mounting Bracket	1,500,000 N/A 203 x 123 x 127 M8 x 1.25 x 100 Mounting Bolts
<b>Environmental</b> Operating Temp Seal Rating Salt Spray	-40°C to +85°C IP6K7 96 hours	-40°C to +105°C IP6K7 240 hours

Mechanical (Push/Pull Cable) Shifters

Specifications

Model	T83	T75
<b>Electrical</b> Supply Voltage Vehicle Connector Backlight LED's Gear Selection Indicator Options	12 / 24 V models Aptive (Delphi) Blue or Green Lever position Park Solenoid	12 / 24 V models Aptive (Delphi) Amber Mechanical Flag Park or Neutral Solenoid Switched output
<b>Mechanical</b> Cycle Life Positions Size (mm) Mounting Options	1,000,000 Up to 7 227 (w/o cable strap) x 156 x 80 Top or Side, Mntg bolt Optional switches Various push/pull cable lengths & Transmission kit options	Up to 7 330 (w/o cable strap) x 178 x 90 Top or Side, Mntg bolt Optional switches Various push/pull cable lengths Transmission kit options
<b>Environmental</b> Operating Temp Seal Rating Salt Spray	-40°C to +85°C IP6K7 96 hours	-40°C to +85°C IP6K7 96 hours

\*CW has developed a CAN Actuator as an alternative to a typical push/pull cable mechanical shifter to rotate the shift shaft on an Allison 1000/2000 Transmission. The CAN Actuator receives J1939 CAN messages from a CAN shifter installed in the vehicle and rotates the Allison shift shaft to the requested position. The CAN Actuator is also equipped with PWM input to be used as a secondary shift strategy and I/O to be utilized as necessary depending on the application. When a cab layout can not accommodate the bend radius of a push/pull cable, or the application requires an electronic shifter, a CW CAN based shifter along with the CAN Actuator is the solution.

Extended Shifters Range

Whatever your shifter needs are Curtiss-Wright has a solution. Please contact us for more information so we can discuss your specific application requirements.





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