

**CURTISS -
WRIGHT**

Industrial Group



Components & Sub-System Solutions for Commercial Vehicles

www.cw-industrialgroup.com

CURTISS - WRIGHT



With a proud legacy spanning more than 85 years, Curtiss-Wright is a global innovative company that delivers highly engineered, critical function products and services to the commercial, industrial, defense and energy markets. Building on the heritage of Glenn Curtiss and the Wright brothers, we have a long tradition of providing reliable solutions through trusted customer relationships.

Curtiss-Wright Industrial Group

Curtiss-Wright Industrial Group is a recognized leader in providing components and sub-systems that enable customer specific solutions for on- 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.

**Our technologies
increase vehicle
productivity, safety
and responsiveness.**

Worldwide

Curtiss-Wright Industrial Group 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 the USA, Europe, China, India and Taiwan, with a network of representatives in other countries.

Portland, OR, USA



Chicago, IL, USA



Pune, India



Legend

- Manufacturing Facility
- Sales Offices



Cwmfelinfach, UK



Christchurch, UK



Suzhou, China

Applications Experience

Curtiss-Wright Industrial Group includes the legacy brands of Arens Controls, Penny & Giles, PG Drives Technology and Williams Controls. These businesses have decades of experience in supplying products to thousands of customers around the

world. Using this diverse applications knowledge, we can confidently recommend solutions by offering standard products with rapid availability, or we can develop custom-engineered solutions by working with your engineers.



Industries Served

- **On-Highway Vehicles** – medium- and heavy-duty trucks, buses and motor coaches, recreational vehicles, refuse trucks, road sweepers
- **Off-Highway Vehicles** – construction, road building, mining, agriculture, forestry, airport operations, defense, motorsport
- **Materials Handling** – lift trucks, telehandlers, cranes, aerial work platforms
- **Medical Mobility** – wheelchairs and scooters
- **Static Machinery** – business machines, switchgear, process control, security



Product Families

- **HMI Consoles**
- **Transmission Shifters**
- **Joystick Controls**
- **Power Management**
- **Electronic Throttle Controls**
- **Position Sensors**
- **Pressure Sensors**
- **Solenoid Actuators and Solenoid Valves**



Design Options

We offer our customers a choice of solutions to consider.

Custom design – using our applications engineering expertise with your development team, we enable a free flow of ideas to provide the most reliable and cost effective product solution to suit your unique application.

- We have extensive hardware design expertise, with 3D modelling and rapid prototyping
- We have in-house, experienced software design teams
- We have in-house EMC test facilities in Europe and the USA
- We have our own environmental testing facilities to enable vibration, shock, temperature, humidity, salt spray and other tests to be performed

- We also have highly accelerated life test and stress screening (HALT/HASS) facilities to validate product reliability during development

Standard products – many of our components can be specified straight from the catalog, with some items available from stock. This solution supports existing customers of standard products and can also aid the rapid evaluation of a technology when developing custom designs for OEMs.

Quality Assured

Our systems are accredited to ISO 9001, ISO 14001 and ISO/TS 16949. Our commitment to the quality of our design and manufacturing is the foundation of our business, ensuring the reliability of our products from initial design to final despatch.

Why Choose Us?

We believe in developing technology-based solutions in partnership with our customers – many of our products are custom-built for specific applications. We strive for the best solutions, from design and manufacturing to prompt, on-time delivery – with operational excellence and a world-class service.

- Extensive Experience – diverse applications knowledge over a breadth of industries
- Innovative Products – customer packaged technologies for mission-critical needs
- Reliable Partner – customer focused with a strong reputation for quality and reliability
- Global Support – sales support and distribution network in over 45 countries
- Financial Strength – supported by a \$2.2 billion NYSE listed corporation



**Our systems are accredited to
ISO 9001, ISO 14001 and ISO/TS 16949.**

Product Families



HMI Consoles

- Lever and Rotary Hand Controls
- Multi-function Operator Consoles
- Wheelchair Mobility Controls
- Vertical Mast Vehicle Controller



Transmission Shifters

- Transmission Shift Control Systems
- Dash-mounted Electro-mechanical Shifters
- Electro-mechanical Shift-By-Wire Actuators and Controllers
- Pushbutton and Lever Shift Controls



Joystick Controls

- Fingertip Rockers
- Paddle Joysticks
- Fingertip Joysticks
- Mid-sized Joysticks
- Single-Axis Joysticks
- Multi-Axis Joysticks
- Friction Lock Joysticks
- Rugged Joysticks and Handgrips
- Single- and Dual-Axis Hydraulic Levers





Power Management

- AC and DC Motor Controllers
- Multi-functional Integrated Motor Controllers
- Power Distribution Modules
- Traction Inverters
- Power Converters
- Auxiliary Power Modules



Electronic Throttle Controls

- Floor-mounted Pedals
- Suspended Pedals
- Adjustable Pedal Units
- Thumb-Throttle Units
- Rotary Hand Controls
- Lever Hand Controls



Position Sensors

- Linear and Rotary Potentiometers
- Linear and Rotary Hall-effect Sensors
- Inductive, LVDT and LVIT Linear Sensors
- In-Cylinder Linear Sensors
- Spool Valve Linear Sensors
- Tilt Sensors





**We strive for
the best solutions,**

*from innovative design
using leading-edge
technologies and
world-class manufacturing
— delivering compelling
value to our customers.*

Pressure Sensors

- Standard Industrial Pressure Sensor
- Compact Pressure Sensor
- Precision Pressure Sensor
- High Temperature Sensor
- Pressure and Temperature Sensor
- Level Sensor
- Differential Pressure Sensor
- Hazardous Area (Ex) Versions



Solenoid Actuators and Solenoid Valves

- C and D Frame Solenoids
- Tubular Solenoids
- AC Laminated Solenoids
- Flapper and Latching Solenoids
- Shot-Bolts and Locking Solenoids
- Solenoid Valves
- Holding Magnets



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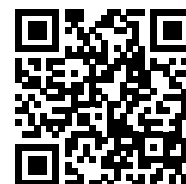
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Partners Worldwide: For a listing of our global sales network, visit our website at www.cw-industrialgroup.com.

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