

**CURTISS -
WRIGHT**

PG Drives Technology
VR2
Wheelchair Control System

VR2



Industrial Division

VR2 system

- **Modular wheelchair control system**
- **VR2 or R-net type motor and battery connections**
- **Drive plus 1 or 2 actuators**
- **Easy installation on all types of wheelchairs**
- **Service-friendly**

VR2 is a multi-module control system designed specifically to cater for the needs of entry-level to mid-range wheelchairs. The VR2 offers a high degree of flexibility, including options for the control of up to two seating actuators. In addition, versions of the Power Module with R-net connectors are available, so allowing simple upgrade paths for wheelchair models or users which may need to transition from a VR2 based system.

The Power Module is available with R-net type motor and battery connectors offering simple upgrade path on a wheelchair that requires more complex seating controls or specialty inputs available with R-net.

Joystick Modules

- **Ergonomic and stylish design**
- **Drive only, seating and lighting options**
- **Simple and clear user controls**
- **Service friendly**
- **Thin and flexible cable**

There are multiple VR2 Joystick Modules available - from the, drive-only version to options that can control seating and lighting functions - each being extremely ergonomic and stylish. The user controls are intuitive and easy to understand, making it simple for new wheelchair users to quickly become confident. All versions have been designed with servicing in mind; for example, the keypads and cable are field replaceable.

Dual Attendant Module

- **Push button exchange of control between user and attendant**
- **Dual Attendant control of max. speed & actuators**
- **Works with all Power Modules as standard**

The VR2 Dual Attendant Control system consists of a Joystick Module, Power Module and Dual Attendant Module. This allows the drive and seat actuator functions of the wheelchair to be controlled by either the occupant or by an attendant from another location on the wheelchair. Control can easily be exchanged via a push button and the attendant can limit the speed of the wheelchair. The attendant also has the option to adjust seat actuators when connected to a suitable VR2 power module.

VR2 Product Family



Power Modules

- **Choice of power ratings up to 90A max**
- **Drive plus 1 or 2 actuators**
- **VR2 or R-net type motor and battery connections as standard**
- **Mounting dimensions as per R-net**
- **Versatile Inhibits**

To offer the optimum combination of power and price the VR2 Power Module is available in 60A, 70A and 90A models. To add further flexibility to the system each Power Module can be populated to drive one or two seat actuators and is configured to recognize a Lighting and Dual Attendant Modules as standard. Each Power Module is available with R-net type battery and motor connectors and has the same mounting dimension as an R-net Power Module, this offers the flexibility to standardize motor and battery harnessing where R-net is a configuration option for the particular wheelchair. Advances in software design have led to a gradient performance never previous available in cost effective systems. If the wheelchair is driven up a hill there is practically zero roll-back between the time the joystick is released and the brakes are applied.

A high-power connector, primarily intended for an on-board charger, is fitted to the Power Module as standard. The 12Arms rating of this connector means it can be safely used for charging large capacity batteries. A universal inhibit pin is included, which can be set up with any type of charger inhibit output. A second inhibit connector is also provided and can also be used wherever there is a need to limit or prevent drive or seat movements.

Lighting Module

- **Separate module to control lighting functions**
- **Works with all Power Module as standard**
- **StVZO lighting control**
- **Small foot print**
- **Modular system that is easy to install**

The VR2 lighting system consists of a Joystick Module, Power Module and Lighting Module. This configuration offers a cost effective elegant way to control lights, turn indicators and hazard lights. The system provides constant brightness lamp control and turn indicator fault detection in compliance with the German StVZO standard, which is mandatory for wheelchairs in that market place.

The small size and modular nature of the lighting system allows for unobtrusive installations anywhere on the wheelchair. The simple push fit connection system makes wiring extremely quick and easy. With self protecting outputs there is no need to fit external fuses or breakers, so wiring harnesses are kept simple.

SPECIFICATIONS

SUPPLY

| | |
|--------------------------|--|
| SUPPLY VOLTAGE | 24Vdc |
| OUTPUT VOLTAGE | 16-28Vdc |
| REVERSE BATTERY VOLTAGE | 40Vdc |
| DRIVE CURRENT | 60A, 70A or 90A |
| BRAKE VOLTAGE | 12 or 24Vdc |
| BATTERY CHARGING CURRENT | 12Arms max. |
| JSM CHARGER CONNECTOR | Use Neutrik NC3MX |
| ACTUATOR CURRENT | 12A max. |
| MOISTURE RESISTANCE | IPX4 |
| SAFETY | Multiple hardware and software strategy designed to ISO7176/14 |

ENVIRONMENTAL

| | |
|---------------------------|--|
| OPERATING TEMPERATURE | -25°C to 50°C |
| STORAGE TEMPERATURE | -40°C to 65°C |
| EMC ON SAMPLE POWER CHAIR | |
| SUSCEPTIBILITY: | Tested at 30V/m to EN12184 and ANSI/RENSA requirements |
| EMISSIONS | To EN55022 class B |
| ESD | IEC801 part2 |

PRODUCT CODES

POWER MODULES

VR2 PMXX
VR2 PMXX-A1
VR2 PMXX-A2
VR2 PMXX-RN
VR2 PMXX-RN-A1
VR2 PMXX-RN-A2

Where XX = power rating of 60, 70 or 90A
RN = R-net connectors

JOYSTICK MODULES

| | |
|-------------|---|
| VR2 JSM | Joystick Module |
| VR2 JSM-A | Joystick Module with Actuators |
| VR2 JSM-L | Joystick Module with Lights |
| VR2 JSM-A-L | Joystick Module with Actuators and Lights |

LIGHTING MODULE

| | |
|--------|-----------------|
| VR2 LM | Lighting Module |
|--------|-----------------|

DUAL ATTENDANT

| | |
|---------------|-----------------------|
| VR2 ATTENDANT | Dual Attendant Module |
|---------------|-----------------------|
