

# HYDRAULIC CYLINDERS



## WHAT'S UP WITH

 **AUTOMATIONDIRECT**.com

The common sense way to buy industrial controls

### 2023 ISSUE 2

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& much more...

### Experience Counts

They say experience is the best teacher and I definitely agree. After all, you only need to get shocked once to learn that "it should be off" doesn't always mean it's actually off. You may have learned the hard way that "watch out, hot plate" isn't an challenge and that a free haircut may not be such a good thing. These little life experiences, that we hopefully learn from, make us better, wiser individuals. At AutomationDirect, we want to take that a step further and use your individual experience to be a better, wiser company. We strive every day to improve the experience you have with us as a customer because we don't just want your business, we want your trust. But we can't do it without you! So please let us know how we are doing by visiting the "Company Reviews" section of our webstore at [go2adc.com/reviews](http://go2adc.com/reviews) or any product's shopping page to submit company and/or product reviews. Tell us how you really feel and don't hold back, because anyone can sell a product but it's the experience that counts!

- The AutomationDirect Team



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## PENINSULAR HYDRAULIC CYLINDERS

The new Peninsular hydraulic cylinders are ideal for industrial applications such as shears, clamps, presses, and many others. These hydraulic cylinders serve as linear actuators that convert the flow of pressurized hydraulic fluid into linear motion/force by means of a moving rod that is embedded in a cylindrical tube. The high forces produced by these cylinders provide excellent flow control for smooth motion.

Peninsular brand NFPA-style hydraulic cylinders are fabricated to very strict tolerance specifications from the highest quality materials. Many bolt-on options allow for installation flexibility and replacement of existing cylinder installations.

### Features Include:

- Available in various bore diameters up to 4"
- Stroke lengths from 1" up to 24"
- Working pressure of 3,000 psi
- Double acting (cylinders have a port in the head and in the end cap; fluid directed to the end cap causes the cylinder rod to extend; fluid directed to the head causes the cylinder rod to retract).
- Models with tapped end caps allow for mounting accessories
- Ductile iron rod bearing
- Mounting options include front flange mount, rear pivot eye mount, rear clevis mount, and rod clevis mount
- Interchangeable with other popular brands of NFPA hydraulic cylinders
- Made in the USA



starting at:  
**\$428**

[www.automationdirect.com/hydraulic-cylinders](http://www.automationdirect.com/hydraulic-cylinders)

## WEG CFW500 HIGH-PERFORMANCE AND WASHDOWN DUTY AC DRIVES

Our new addition of WEG CFW500 series drives provides high-performance AC variable frequency drives that support closed-loop flux vector speed control as well as torque control modes.

These AC drives can operate both AC Induction motors and permanent magnet AC motors and are available with an IP66/NEMA 4X enclosure for models up to 20hp and with an IP20 enclosure for models up to 150hp.

### Features Include:

- 200-240 VAC 1-phase up to 3hp, 3-phase up to 40hp
- 380-480 VAC 3-phase up to 150hp
- Control modes include Scalar, Vector Control (sensorless and closed-loop with encoder feedback), and VVW PM (suitable for fan, pump and compressor)
- Speed and torque control down to 0 (zero) rpm & precision of 0.01% for speed control are attainable with closed-loop encoder feedback using vector control
- 0 to 500 Hz output frequency range
- 2.5 to 15 kHz adjustable switching frequency (5 kHz standard)
- Linear and "S" ramp acceleration and deceleration
- Built-in SoftPLC (Same programming software as other WEG VFDs, part number CFW-WPS)



starting at:  
**\$826**

[www.automationdirect.com/high-performance-vfd](http://www.automationdirect.com/high-performance-vfd)

## SCHMALZ END-OF-ARM TOOLING COMPONENTS

Components  
starting at:  
**\$14**

End-of-arm tooling components include starter kits that provide enough components required to create a single-beam or dual-beam end-of-arm tool for a vacuum pick-and-place application to connect on the end of a robotic arm. Kits are made simple to save time and money but still allow a degree of customization by simply cutting the structural rail to the desired lengths, determining the location of the suction cups, and assembling the unit. The assembled unit can be added to the robot interface flange for your robot brand, or you can drill your own using the included blank robot flange.

### Features Include:

- Kits include structural rail, connectors, cup mounts, vacuum tubing, vacuum cups, fittings, basic ejector, flange for Universal robot, and blank robot flange
- Can be built to use internal or external vacuum
- Additional robot flanges are available to connect to Fanuc, Rethink, Universal, and Yaskawa robot arms
- Single profile kit minimum active 20 pound-force load (90 N), maximum active 78 pound-force load (350 N)
- Double profile kit minimum active 56 pound-force load (250 N), maximum 140 active pound-force load (625 N)



[www.automationdirect.com/pneumatic-vacuum](http://www.automationdirect.com/pneumatic-vacuum)

### Individually Sold End-of-Arm Tooling Components Include:

- Profile rails
- Profile (rail) connectors
- Suction cup mounts
- Vacuum ejector
- Connector hardware

## PROSENSE VCT SERIES HARSH DUTY VIBRATION TRANSMITTERS

starting at:  
**\$205**

The addition of the new ProSense VCT transmitters provides an effective way to monitor overall vibrations of typical industrial machinery, which in turn allows implementation of predictive maintenance strategies.

These microelectromechanical system (MEMS) based sensors provide vibration sensing to standard DIN ISO 10816. These transmitters also provide an analog 4-20mA output to monitor rising vibration levels before reaching a warning or alarm point. This output signal can also provide an easy way to trend the overall machine health over time.

### Features Include:

- Available vibration velocity ranges include 0 to 25 mm/s RMS or 0 to 50 mm/s RMS
- 10 to 1000 Hz frequency range
- Suitable for most industrial machines with motor speeds of 600 to 3000 rpm.
- Rugged stainless steel housing
- IP67, 69, or 69IPK rating depending on cable rating



[www.automationdirect.com/vibration-transmitters](http://www.automationdirect.com/vibration-transmitters)

- Ideal for harsh industrial applications with temperatures up to 257°F
- Various mounting options and accessories available

## SUBMERSIBLE LEVEL TRANSMITTERS

starting at:  
**\$509.00**

Our new Endress+Hauser hydrostatic submersible level transmitters provide continuous liquid level measurement by measuring the hydrostatic pressure produced by the height of the liquid above the sensor.

- FMX11 model for fresh water applications
- FMX21 model for wastewater applications
- Both models have shielded cables and provide a 4-20 mA output signal
- Both have durable 316 stainless steel housing with a sensor protector cap
- Accessories available include terminal box, weights, and more



[www.automationdirect.com/level-sensors](http://www.automationdirect.com/level-sensors)

## T-SLOTTED RAIL HARDWARE COMPONENTS

starting at:  
**\$2.00**

More Fath T-slotted rail hardware components designed to easily install in SureFrame rails, as well as many other brands, have been added, including:

- Roll-in T-slot nuts with spring loaded ball
- Slide-in T-slot nuts
- Screw & miter connectors
- 1- and 2-slot pivot joints
- Extended swivel bases
- Foot consoles
- Leveling casters
- Magnetic catches
- Sensor mounting blocks
- 4-axis PC workstation and components
- Panel holders and mounting blocks
- Protection profiles
- Profile sliders
- Roller elements
- and much more



[www.automationdirect.com/t-slotted-components](http://www.automationdirect.com/t-slotted-components)

## ATLAS 300V TYPE AWM WIRE

starting at:  
**\$31**  
500ft Roll

Atlas 300V rated Type AWM (Appliance Wire Material) wire is mainly used for the internal wiring of appliances such as refrigerators and air conditioning equipment, but is also ideal for general purpose circuit wiring and machine tool wiring.

- 26 AWG to 16 AWG
- Tinned copper conductor
- Polyvinyl Chloride (PVC) outer jacket in various colors with striped versions available
- Available in 500 or 1000 ft. spools
- Made in the USA



[www.automationdirect.com/awm-wire](http://www.automationdirect.com/awm-wire)

## TWO-HANDED SAFETY CONTROL PANELS

starting at:  
**\$153**

IDEM two-handed safety control panels are designed to force an operator to keep their hands on the two-handed safety control actuator and out of harm's way during hazardous operations. The new IDEM products include:

- A control station with momentary pushbuttons
- A control station with zero-force touch buttons
- An empty two-handed control station enclosure for custom configurations
- A two-handed IDEM control safety relay intended for use in safety circuits for presses, punches, bending tools, and any application where a threat to operator hands exists.



[www.automationdirect.com/two-hand-control](http://www.automationdirect.com/two-hand-control)

## TRUMETER GRAPHICAL PANEL METERS

starting at:  
**\$147.00**

Trumeter ADM series advanced panel meters and universal power meters have displays that provide easy-to-read critical parameters, user-programmable scales, and custom alarm messages which quickly alert operators when a parameter is out of range. Series added include:

- The ADM200 series of advanced graphical panel meters
  - » Large 4-inch display with a full color changing RGB backlight
  - » Select models offer digital and analog outputs, Modbus RTU/TCP communication, measure power and frequency, and offer an IP65 protection rating
- The ADM100W series is a universal power meter that features a 3-inch backlit display, 4 alarm setpoints, and offers Modbus RTU communication via RS-485



[www.automationdirect.com/graphical-panel-meters](http://www.automationdirect.com/graphical-panel-meters)

## MURRELEKTRONIK SURGE SUPPRESSION

starting at:  
**\$8.00**

Murrelektronik surge suppression devices protect and lengthen the life of motors, contactors, relays, solenoids and PLC outputs. Surge suppressors available include:

- Universal Surge Suppressors: These include Zener (TVS), Varistor (MOV), and RC surge suppressors
- Motor Surge Suppressors: Protect 3-phase motors up to 7.5 kW (10hp) at 575 VAC. The varistor suppressor can also protect VFD applications with 3-phase motor loads of up to 20 kW (26.8hp) at 575 VAC.
- Valve Surge Suppressors: These include Zener, RC, and varistor types used to protect against damage to solenoid coils.



[www.automationdirect.com/surge-suppression](http://www.automationdirect.com/surge-suppression)

## SCHMERSAL COMPACT LIMIT SWITCHES

starting at:  
**\$9.25**

Rugged Schmersal compact limit switches provide an affordable solution for object detection applications in tight spaces.

- Plunger actuator type works well to detect miniscule motion and activates when objects or mechanism depress the plunger.
- Plunger with roller actuator type works great for following a contoured shape or to allow objects to pass easily, and activates when an object depresses the plunger.
- Side rotary lever with roller actuator activates when the side-mounted lever is pushed past a certain angle and allows objects to pass easily.
- Side rotary rod actuator activates when the side-mounted rod is pushed past a certain angle.



[www.automationdirect.com/limits](http://www.automationdirect.com/limits)

## STRATUS ENCLOSURE AIR CONDITIONERS

starting at:  
**\$3,190**

New energy-efficient Stratus TA air conditioners are made in the USA, use environmentally friendly and chlorine-free R-134a refrigerant, are designed for outdoor use, and operate with an internal closed loop system to protect from dust, oil, and water.

- Available with up to 5,910 BTU/H capacity
- Includes a programmable temperature controller and visible alarms
- Available in NEMA 4, 4X, or 12 ratings and in 115 or 460V operating voltage



[www.automationdirect.com/enclosure-air-conditioners](http://www.automationdirect.com/enclosure-air-conditioners)

## MODULAR MIDGET & CC FUSE HOLDERS

starting at:  
**\$4.50**

Socomec compact fuse holders for Class CC and Midget fuses provide a convenient, cost-effective solution for fused connections in power or control circuits, electronic equipment, lighting applications, and more.

- 200kA SCCR
- 35mm DIN-rail mounting
- Finger-safe protection
- Models with LED blown fuse indicator
- Available in bulk or convenience quantities



[www.automationdirect.com/modular-fuse-holders](http://www.automationdirect.com/modular-fuse-holders)

## X-CODED CAT6A ETHERNET CABLES

starting at:  
**\$66**

Murrelektronik X-coded Cat6a high-flex shielded industrial Ethernet cables include an M12 connection on one end and an RJ45 connection on the other. The X-coded designation is commonly used with industrial vision systems.

- Available in lengths up to 5m
- Transmission rate of up to 10Gbps
- Flame-retardant and chemical resistant TPE (thermoplastic elastomer) jacket
- One-year warranty



[www.automationdirect.com/idc-connectors](http://www.automationdirect.com/idc-connectors)

## RHINO PRO DC-TO-DC CONVERTERS

starting at:  
**\$190**

RHINO PRO PSRP series industrial DC-to-DC converters feature robust protection ratings, such as high EMC immunity, and shock, vibration, and thermal shock resistance.

- Provides constant current output
- Ideal for battery charging applications
- Protects against overtemperature, overload, short circuit, reverse input, overvoltage, and input undervoltage lock-out



[www.automationdirect.com/dc-converter](http://www.automationdirect.com/dc-converter)

## QUABBIN COMMUNICATION CABLES

starting at:  
**69¢ per ft.**

More Quabbin Ethernet and Profinet communication cable options include:

- Continuous flexing Cat5e or Cat6/6a shielded industrial Ethernet cable with ZHFR, FR-TPE, or TPE jackets
- Unshielded Cat5e industrial Ethernet cable CMX outdoor-CMR rated and PLTC rated styles
- Continuous flexing shielded industrial Profinet cables with TPE jackets
- All cables available in cut to length, 1-foot increments with a minimum



[www.automationdirect.com/cables](http://www.automationdirect.com/cables)

## DOLD SAFETY RELAYS

starting at:  
**\$167**

Added Dold safety relays include more motor standstill monitoring relays, as well as safety relay extension modules.

- Motor standstill safety relays provide standstill detection for single or three-phase motors, by monitoring the remanence voltage (back EMF) of the motor signal.
- Safety extension relays provide additional contacts for Emergency-stop relay modules, safety gate monitors, and safety controllers.



[www.automationdirect.com/safety-switches](http://www.automationdirect.com/safety-switches)

## PROSENSE FLOAT LEVEL SWITCHES

starting at:  
**\$17.25**

More low-cost ProSense top- and side-mount float level switches have been added:

- FLS-VM-800 float switch which has a 3/4" PVC pipe fitting for use in HVAC condensate lines
- FLS-VD series that includes a 3/4" MNPT connection for mounting to most standard 3/4" bungs in 55-gallon drums.
- Additional float switches, in medium and large sizes



[www.automationdirect.com/float-level-switch](http://www.automationdirect.com/float-level-switch)

## MURRPLASTIK CABLE ENTRY SYSTEMS

starting at:  
**\$20.50**

New Murrplastik cable entry systems allow installation of non-terminated or pre-made/terminated cables through an enclosure or other bulkhead surface.

- KDP/R series, a round version of the existing KDP series that can hold up to 46 non-terminated cables in a single frame
- KDL/H-VA-FDA, an FDA compliant split frame version that can hold up to 12 pre-made or terminated cables
- KDP Cablequick® series, an FDA compliant one piece frame that can hold up to 56 non-terminated cables



[www.automationdirect.com/cable-entry-systems](http://www.automationdirect.com/cable-entry-systems)

## DATALOGIC SMART VISION SENSORS

starting at:  
**\$879**

Datalogic smart vision sensors are intelligent self-contained systems capable of learning images that represent a quality product or proper object orientation. The sensors compare the data with real-time product images and determine a pass/fail or good/no good condition and trigger the configured corrective actions.

Application examples include verifying fill level, cap orientation, and label presence.



[www.automationdirect.com/vision](http://www.automationdirect.com/vision)

## New Supplier Profile: LS ELECTRIC - A Visionary in Automation

Imagine a future of a fully automated supply chain where items are manufactured, assembled, shipped, and delivered entirely by automated machines. This notion used to seem far-fetched, but is now a very real and current reality. While the fear of a robotic revolution remains the theme in some movies, these advanced technologies are making life, and work, easier everywhere.

As the energy sector continues to evolve, LS ELECTRIC remains at the forefront of automation system technologies in an effort to make energy smarter, safer and more convenient for everyone. The company is shifting its focus from being a product provider to an integrated solution provider of devices, software, and communication devices, sensors & systems – the entire scope. As a conglomerate based in South Korea after branching off from LG Group in 2003, LS ELECTRIC continues to develop and expand its global reach. With its comprehensive range of power and automation systems products, state-of-the-art Institute of Power Testing and Technology, and award-winning sustainability, it's no surprise that LS ELECTRIC is leading the globe in smart energy solutions.

We carry LS Electric L7 series servo systems, available for various voltages, with built-in absolute encoder in various resolutions, with or without holding brakes, and with free Drive CM software for easy setup/configuration.

Read all about LS ELECTRIC or any of our other supplier profiles at [go2adc.com/profiles](http://go2adc.com/profiles).

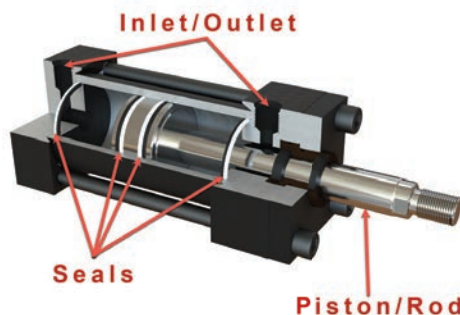


## AutomationDirect Enters the Hydraulics Field

AutomationDirect proudly enters the hydraulic components market with the addition of quality Peninsular hydraulic cylinders.

A hydraulic cylinder consists of a rugged cylindrical tube with end caps at each end of the cylinder. The end caps each have a channel that allows a fluid to flow in or out the tube's chamber depending where pressure is applied. Encased within the cylinder is a metal rod that acts as a piston and at the bottom of this rod/piston there is a base with seals that divides the encasing tube into two separate chambers.

The design is such that as the fluid exits one end of the cylinder, it enters the other side and vice versa, pushing on the rod's base and causing a horizontal movement of the piston. Therefore, if the fluid pushes on one end of the cylinder, it will cause the piston to extend, and if it pushes on the opposite end, it will cause the piston to retract.



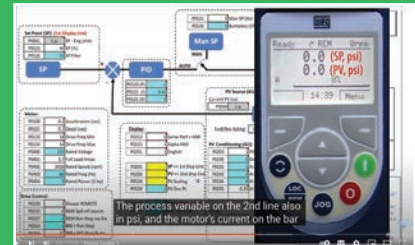
Peninsular double-acting cylinders are a great choice for applications as simple as opening and closing a flap or a door, to any application that requires a repetitive action where both extend and retract are controlled and not reliant on weight/gravity or a spring.

Visit our hydraulic cylinder overview page at [www.automationdirect.com/hydraulic-cylinders](http://www.automationdirect.com/hydraulic-cylinders) for additional information.

## NEW VIDEOS

Find all videos at [www.automationdirect.com/videos](http://www.automationdirect.com/videos)

### PID QUICK START - WEG CFW500 VFD



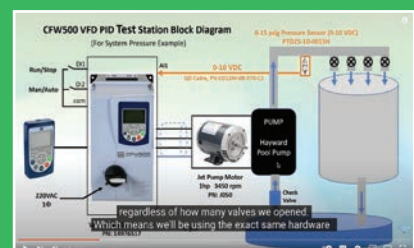
This video series will walk you through all of the hardware and parameters needed for the WEG CFW500 PID feature. (VID-DR-0325/VID-DR-0326)

### SLEEP MODE - WEG CFW500 VFD



This video will show you how to set up Sleep Mode and use it. It also shows you how to tune the PID loop for the special case of tank filling which is an "integrating" PID process. (VID-DR-0328)

### PUMP GENIUS - WEG CFW500 VFD



This 3-part video series shows you how to build a Pump Genius app to suit your specific needs and then walks you through configuring the parameters. (VID-DR-0335)

# WHAT'S UP WITH AUTOMATIONDIRECT

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Let AutomationDirect help  
you stretch your controls  
and maintenance budget!

This issue of our  
Product News Bulletin  
will keep you up to date.



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AD-07-MULTI-0423

We're  
introducing  
NEW PRODUCTS  
every month,  
all at our  
EVERDAY  
LOW PRICES

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1-800-633-0405 | WWW.AUTOMATIONDIRECT.COM

AUTOMATIONDIRECT  
3505 Hutchinson Rd.  
Cumming, GA 30040