

SIEMENS

NEMA Pump Controls

NEMA Pump Controller for agricultural and oil & gas industries
usa.siemens.com/pumppanels





Durable and dependable performance

At Siemens, we know that protecting the performance of your irrigation and oil well pump jack equipment is a critical priority. A key element of this protection is Siemens pump controller.



Class 82 full voltage pump controller with fusible disconnect switch and standard features

Class 82 NEMA slim line full voltage pump panels

Class 82: Product description and application

The Class 82 slim line NEMA pump panel was designed specifically for the agricultural market. It is well suited for irrigation and similar pumping applications and is built to withstand the harsh elements of the outdoors.

Typical applications include:

- Crop Irrigation
- Sprinklers, misters and soakers
- Watering for livestock and other dairy applications
- Ground dewatering for excavation and construction sites

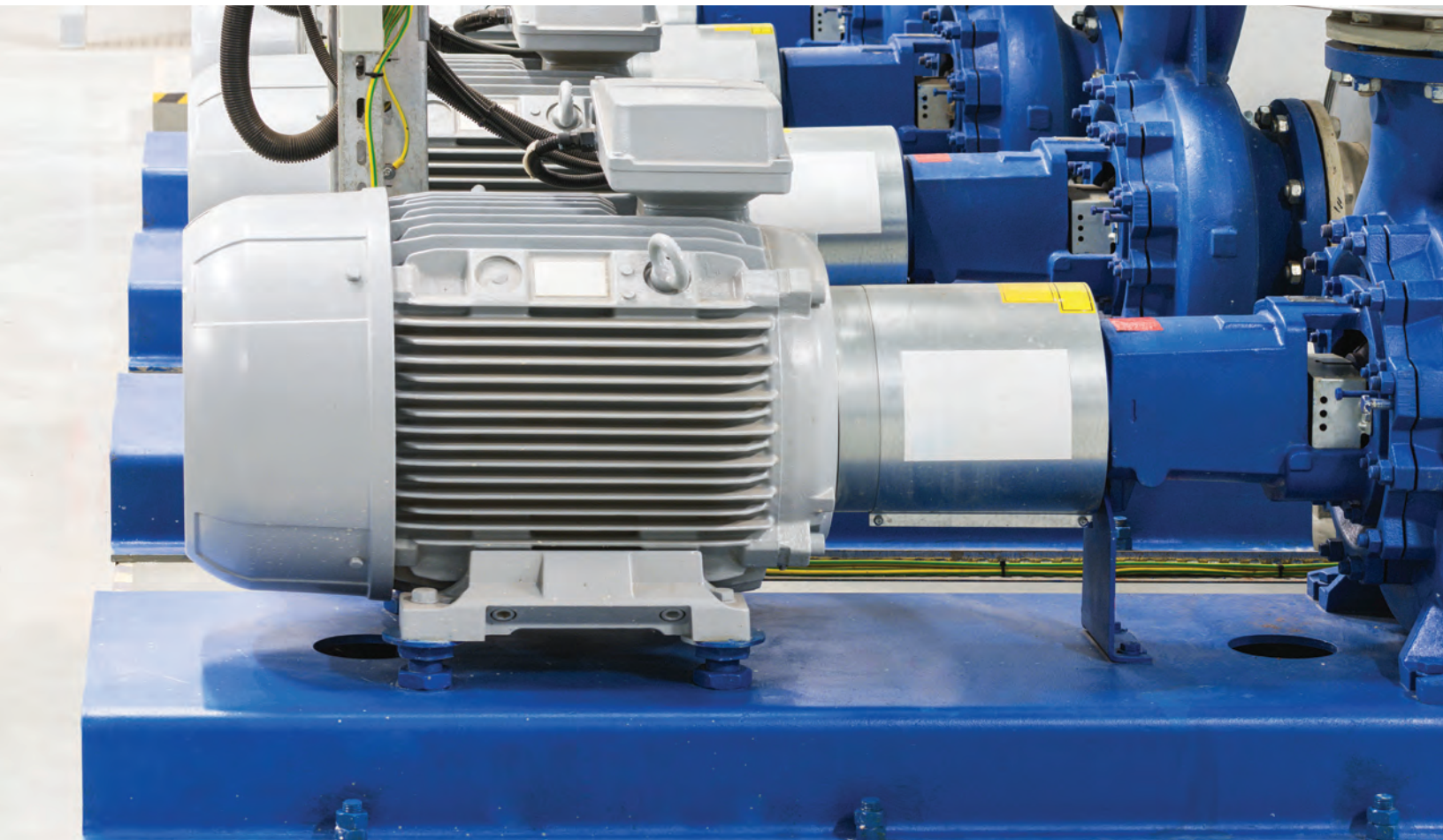
Top Benefits:

- Its compact size and weight makes it easy to install.
- The contactor is NEMA rated to provide reliable motor control and protection expected in the most demanding applications.
- The SSOLR has a conformally coated circuit board which gives superior protection against high humidity, condensation and corrosive environments.
- The SSOLR provides true phase loss protection tripping within three seconds.
- The enclosure is fabricated with galvanized steel for superior corrosion resistance.

Class 83 and Class 84 NEMA duplex motor controllers

Product description and application

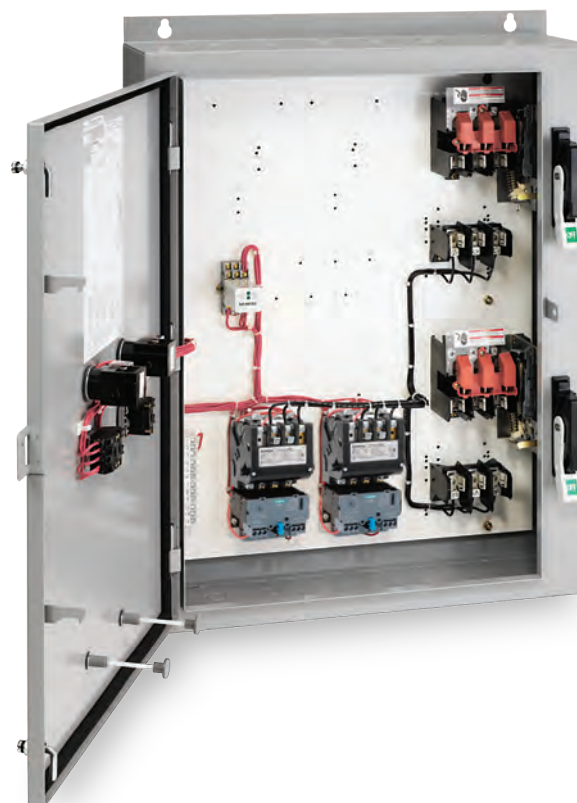
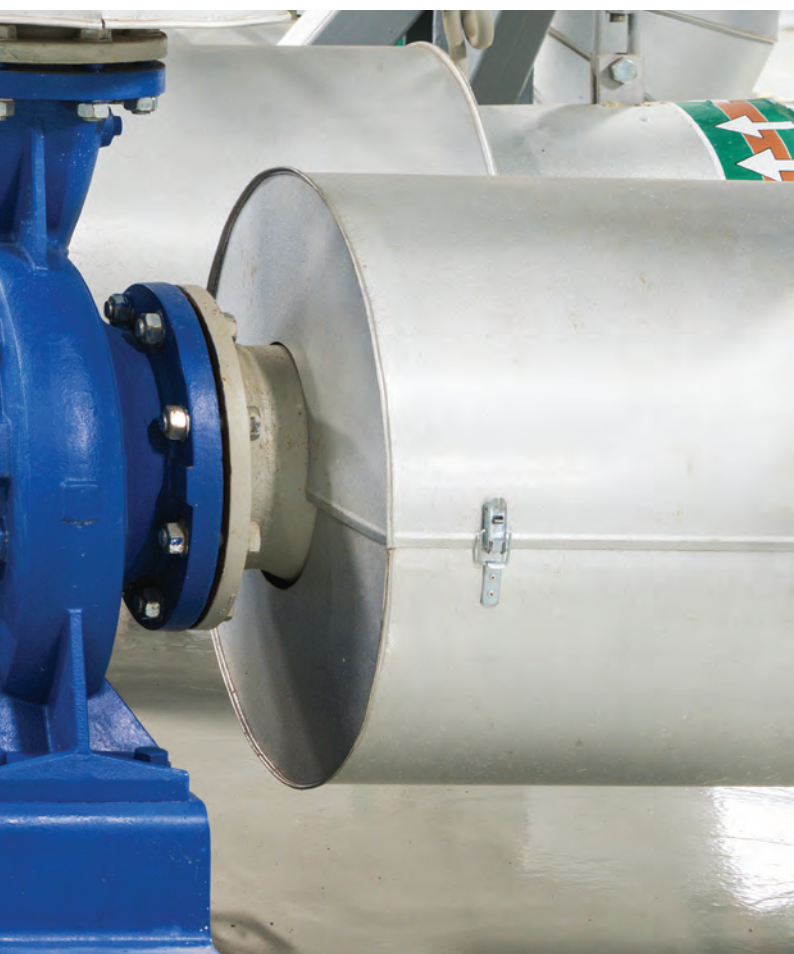
The Siemens duplex motor controllers are specifically designed for industrial and commercial applications that require duplex controls such as dual pumps or blowers. They are built to withstand demanding environments found both indoors and outdoors. Duplex motor controllers consists of two motor starters in a common enclosure. Class 83 is a non-combination duplex motor controller. Class 84 is a combination duplex motor controller with two separate disconnects or circuit breakers.



The Siemens duplex motor controllers are designed to perform one or both of two distinct functions: duplexing and alternation. The duplexing function provides capacity for system peaking or above normal demand without having both motors running at all times. It also provides standby capacity for use when one of the motors is disabled. The alternation function reverses the lead and lag mode for the two motors in a duplex system. Upon alternation the first motor becomes the lag motor and the second motor assumes the lead function. The alternation is usually programmed to occur at any time both motors come to rest. The alternation function equalizes wear on the two machines and extends the life of seals and bearings.

Features and benefits

- Heavy-duty NEMA starter sizes 0 – 4 including Siemens exclusive half-size starters to provide reliable motor control and protection expected in the most demanding applications. Combination controllers are available with a disconnect switch or circuit breaker
- The ESP200 solid-state overload relay has a protective coating on the circuit board which gives it superior protection against high humidity, condensation and corrosive environments
- Combination controllers are available with a disconnect switch or circuit breaker
- Alternator controls included as standard
- Line side shield on disconnect switch to help guard personnel from contact with live parts
- Comprehensive offering of enclosure types including Type 1, 3/3R, 12, 4 painted and 4X stainless steel to meet your application requirements
- Door is removable for ease of installation and maintenance
- Factory and field modifications for custom applications
- UL listed



Class 84 duplex motor in type 1 enclosure

3RE48 and Class 87 NEMA rated full voltage pump control panels

Product description and application

The 3RE48 and Class 87 NEMA rated full voltage pump controllers are specifically designed for the agricultural, petrochemical and other industries requiring pump control. They are built to withstand the harsh elements of the outdoors and are well suited for the most demanding environments.

Typical applications include:

- Crop Irrigation
- Oil Fields
- Waste Water Treatment
- Dewatering

Common features and benefits:

- Heavy-duty NEMA starters to provide reliable motor control and protection expected in the most demanding applications

- The ESP200 solid-state overload relay has a protective coating on the circuit board which gives it superior protection against high humidity, condensation and corrosive environments
- Heavy-duty disconnect switch with visible blades for safety and double break switch action to reduce arcing and increase lifetime (also available with circuit breaker)
- Line side shield on disconnect switch to help guard personnel from contact with live parts
- Type 3R enclosure fabricated with galvanized steel versus conventional cold rolled steel for superior corrosion resistance
- Rugged 3SU 30 mm H-O-A switch and Start push button, which are standard

features, rated NEMA Type 3, 4, 12, and 13 are oil and dust tight and provide superior resistance to outdoor environmental elements

- Full gasketed door to ensure a dust tight and watertight seal
- Mounting flanges at top and bottom of enclosure for easy mounting on poles or flat surfaces using keyhole slots
- Oversized mounting panel for field mounting additional controls or for use as a wire way for large power conductors
- Heavy-duty quarter-turns for fast entry and proper sealing of enclosure
- Door is removable for ease of installation and maintenance
- Accessories for field modifications
- 100% factory testing of assembled pump panel



- High fault interrupting ratings up to 100kA at 600V
- UL rated as Service Entrance Equipment permitting equipment to be pole mounted and installed directly off of utility power lines
- UL listed

Features and benefits specific to 3RE48

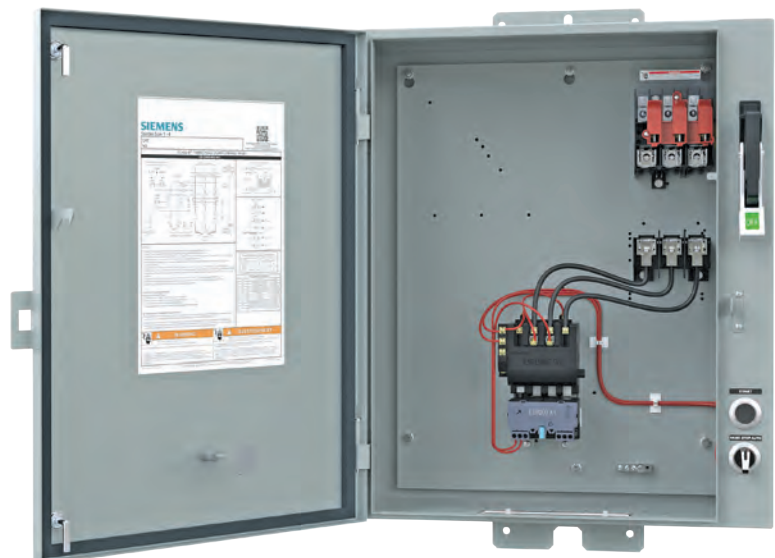
- Utilizes the latest and more advanced contactor technology with the SIRIUS NEMA rated contactor size 1 - 4. The contactor is designed, constructed, tested, and certified per the same NEMA requirements as that of the Class 40 NEMA rated contactor
- Priced approximately 15% lower than the Class 87
- Reduced risk of investment via a 3-year limited warranty on the SIRIUS NEMA rated contactor and coil

Features and benefits specific to Class 87

- Utilizes the Class 40 NEMA rated contactors sizes 1- 6 including Siemens exclusive half-size starters
- Factory installed accessories



Class 3RE48 full voltage pump controller with fusible disconnect and standard features



Class 87 full voltage pump controller with fusible disconnect and standard features

Class 87 NEMA vacuum starter pump control panels

Product description and application

The Siemens vacuum starter pump controllers are designed for the harshest environments. Typical environments include chemical, petrochemical, waste water treatment and mining. Contaminations present in these severe environments are detrimental to conventional air-break contacts decreasing their life expectancy and reliability. The Siemens vacuum starter pump controllers are well suited for these environments because the contacts are contained in hermetically sealed contact tubes. This prevents contaminants in the atmosphere from affecting the operation of the contacts. Additionally, neither arcs nor arcing gases are produced which dramatically increases the electrical endurance of the contacts.

Features and benefits

- Heavy-duty NEMA vacuum starter sizes 4 - 6 to provide reliable motor control and protection expected in the most demanding applications
- Hermetically sealed contacts preventing environment from adversely affecting their operation



Class 87 pump panel with Vacuum Contactor

- No arcs nor arcing gases are produced minimizing erosion and thus increasing the electrical endurance of the contacts
- Available with a fusible disconnect switch or circuit breaker
- Type 3/3R enclosure which is fully gasketed to ensure a dust tight and water tight seal
- Rugged 30 mm H-O-A switch and Start push button, which are standard features, meet Type 3, 4, 12, and 13 specifications and are oil and dust tight for durability
- Door is removable for ease of installation and maintenance
- Factory and field modifications for custom applications
- UL rated as Service Entrance Equipment permitting equipment to be pole mounted and installed directly off of utility power lines
- UL listed



Class 88 NEMA reduced voltage pump control panels

Product description and application

The Siemens reduced voltage starter pump controllers are designed for the same applications and environments the Class 87 full voltage starter pump controllers serve. However, these controllers provide added protection for your equipment.

When energized, full-voltage starters can cause excessive pressure surges in centrifugal pumping systems. These pressure surges induce stress in the piping which causes “water hammering.” Even worse than the noise produced from the water hammering is the equipment damage that pressure surges may cause. This damage can include, among other things, ruptured pipes, loosened or broken pipe supports and damaged valves. The Siemens NEMA reduced voltage pump controllers are designed to reduce damage to your equipment. This is accomplished by stepping up the motor speed and thus reducing starting torque. A second reason for using reduced voltage controllers is to comply with electrical current restrictions of utility companies.

Siemens manufactures the three commonly used NEMA reduced voltage pump controllers. This consists of the auto transformer, wye-delta and part-winding starters. Each type of starter is designed for specific application requirements. In addition to reducing starting torque, they also reduce inrush current and provide smoother acceleration of the pump.



Class 88 auto transformer type pump controller

Features and benefits common to all class starters

- Heavy-duty NEMA starter sizes 1 – 6 including Siemens exclusive half-size starters to provide reliable motor control and protection expected in the most demanding applications
- The ESP200 solid-state overload relay has a protective coating on the circuit board which gives it superior protection against high humidity, condensation and corrosive environments
- Adjustable starting time
- CPT supplied as standard
- Available with a fusible disconnect switch or circuit breaker
- Type 3/3R enclosure which is fully gasketed to ensure a dust tight and water tight seal
- Rugged 30 mm H-O-A switch and Start push button, which are standard features, meet Type 3, 4, 12, and 13 specifications and are oil and dust tight for durability
- Door is removable for ease of installation and maintenance
- Factory and field modifications for custom applications
- UL rated as Service Entrance Equipment permitting equipment to be pole mounted and installed directly off of utility power lines
- UL listed



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