

CONCORD

SMSR

Smart Motor Starters

With Electronic Overload Relay

Start Right.....Every Time



ISO 9001 : 2008

DOL
DOL REVERSING
STAR DELTA **STARTERS**

CONCORD

Overview

The New range of Motor Starters Starters, SMSr - Smart Motor Starters from CONCORD - A brand new way to Control and Protect your motors. The Sturdy IP 65 Sheet Steel Powder Coated Enclosure keep unwanted pollutants out and enhance the Motor Starters to function smoothly over long periods for extended life.

When it comes to Motor control and protection, reliability and repeatability are the keys around which the Smart Motor Starters SMSr are designed. These Starters are not only easy to install, maintain and operate but also offer the user excellent performance and are compliant to latest international standards.

The SMSr range of Starters have Electrically operated Start and Stop Push buttons, LED Indication Lamps to show the status of the motor (Run and Trip Signals), Terminal Blocks for ease of wiring, Electronic Motor Protection Relays (EOCR - Electronic Motor Saver) and Cable Glands to grip your incoming and Outgoing cables all built as standard feature in all the models.

Available as standard units in the following configurations the SMSr - Smart Motor Starters are your ideal choice for efficient and reliable Motor Protection and control.

- DOL (Direct On Line) Starters for Motors up to 20 HP
- DOL (Direct On Line) Reversing Starters for Motors up to 20 HP
- DOL (Direct On Line) Starters/Reversing Starters of higher ratings are available upon request
- Star Delta Starters for Motors up to 70 HP
- Star Delta Starters for higher ratings are available upon request

Salient Features

- IP 65 Protection for all models
- Hinged Door for ease of use and installation
- LED Lamps to indicate Motor Status (Run and Trip)
- Terminal Blocks for Incoming & Outgoing connections
- EOCR - Electronic Motor Saver for protection against Overload, Phase Loss, Locked Rotor, Underload, Phase Reverse, Unbalance, Ground Fault
- Cable Glands for fixing cables
- Wide Voltage Range Coil in AC Contactor
- Manual Reset in case of Trip
- Enough Space inside the enclosure to add more devices
- Standard and Custom designs possible based on application



SMSR - Smart Motor Starters

What makes our Motor Starter's - SMARTER?

Inside the SMSr range of Smart Motor Starters, we have done a lot of Research and used our experience to ensure that these Starters not only look good from the outside but are serious workhorses inside. We take precise care to the finest detail to ensure our Starter's are designed to suit your needs. Every part that goes into the SMSr is thoroughly checked for quality at our factory to ensure your peace of mind - every time.

Enclosure

The IP 65 Enclosure is made of Sheet Steel and Powder coated so even in harsh conditions it is secure from harsh industrial environments. The Enclosure has a hinged door, the opening of which can be changed depending upon convenience of use. The Silicon Seals inside ensure protection of dust and other harmful elements from entering and hence provides a long life of use. There are 3 Earthing points available inside the enclosure. The hinged door is accessible by a special key making it difficult for non authorised staff to change any settings.

Magnetic Contactors

The IP 65 Enclosure is made of Sheet Steel and Powder coated so even in harsh conditions it is secure from harsh industrial environments. The Enclosure has a hinged door, the opening of which can be changed depending upon convenience of use. The Silicon Seals inside ensure protection of dust and other harmful elements from entering and hence provides a long life of use. There are 3 Earthing points available inside the enclosure. The hinged door is accessible by a special key making it difficult for non authorised staff to change any settings.

Magnetic Contactors

The HDCr - High Definition Contactor range from CONCORD are designed to suit local conditions and is used for making and breaking of AC Circuits including frequent starting and controlling 3 Phase AC Motors rated for 50Hz rated Insulation Voltage of 690V and AC3 rating of 400V. Suitable for switching loads up to 125 Amps. Conforming to International Standards these HDCr are compact, rugged and easy to use. The coil is wide voltage and is ideal for Indian conditions.

Electronic Motor Protection Relays

The EOCR - Electronic Motor Saver Relays are Electronic units with 2/3 inbuilt Current Transformers and consists of a Sampling, Management and Output System which is controlled by an Integrated CMOS circuit which delivers the final output. These EOCR - are Independent Units used in conjunction with HDCr/AC Contactors or with any other international DIN rail suitable Magnetic Contactors. These Relays use separate Control Voltage and hence are relatively free from various Electrical faults in systems. The user is offered a variety of models to choose from depending upon suitable budget and protection features required.

Timers, Control Devices and other Accessories

For the complete Range of SMSr - Smart Motor Starters, the accessories used are standard CONCORD make or any other equivalent makes depending upon the choice of the user. The Terminal Blocks and Cable glands used in standard versions are also made to the highest specifications to suit your needs.

Other Options

All though we take all necessary precautions to ensure that all parts used inside the SMSr - Smart Motor Starters are of top quality and we offer them as standard units. But since we offer solutions for Motor Control and protection, we can use any make of component as per your requirements and can also offer these units with other makes of Electronic Motor Protection devices on your recommendation to ensure your safety and peace of mind. With a Unique offer to Build-Your-Own-Starter, you can pick and choose the components that go into the Motor Starters for your Plant and Machinery needs for your entire project. Guarantee your own peace of mind the way you desire and consult us for the best possible option to Build-Your-Own_Starter



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DOL STARTERS (Standard Units)

The DOL - Direct On Line Starter is the most typical and conventional type of Motor Starter for 3 phase Induction Motors. The DOL Starter Unit, basically consists of an AC Electromagnetic Contactor for switching the Motor On/Off and an Overload Relay to prevent motor failures against typical Overload and Single phasing conditions that may arise during operation. Our SMART - DOL starters use the latest Electronic Over Load protection technology and offer unmatched protection features during operation.

These Starters are Electrically operated units and your ideal choice for even the most demanding applications.



Inbuilt Protections:

- Overload
- Phase Loss
- Locked Rotor
- Starting Delay Time

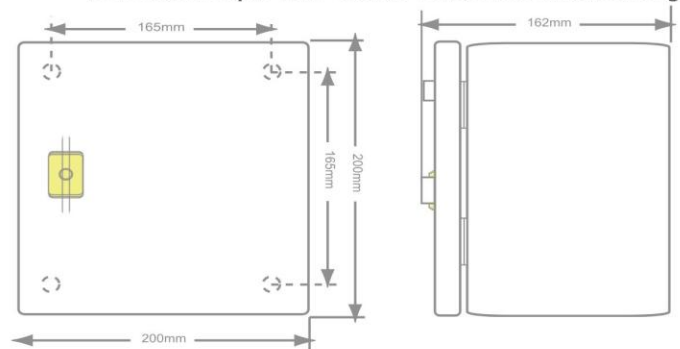
SELECTION CHART FOR DOL STARTERS UP TO 20HP With EOCR SS - Electronic Motor Protection Relay

Max. Motor Rating at 415V 3 Phase 50Hz		Overload Relay Range	Overload Relay Reference	Contactor Reference	Contact Rating (Amps)	Starter Code	Recommended Back up Fuse	Cable Size	
KW	HP							Al	Cu
0.37	0.5	0.5 – 6.5	EOCR SS 05	HDCr12	12	SMSr D21 205 10	4	1.5	1.5
0.55	0.75	0.5 – 6.5	EOCR SS 05	HDCr12	12	SMSr D21 205 13	4	1.5	1.5
0.75	1	0.5 – 6.5	EOCR SS 05	HDCr12	12	SMSr D21 205 19	4	1.5	1.5
1.1	1.5	0.5 – 6.5	EOCR SS 05	HDCr12	12	SMSr D21 205 26	6	1.5	1.5
1.5	2	0.5 – 6.5	EOCR SS 05	HDCr12	12	SMSr D21 205 37	10	1.5	1.5
2.2	3	0.5 – 6.5	EOCR SS 05	HDCr12	12	SMSr D21 205 48	10	1.5	1.5
3.7	5	3 – 30	EOCR SS 30	HDCr18	18	SMSr D21 830 78	20	1.5	1.5
5.5	7.5	3 – 30	EOCR SS 30	HDCr18	18	SMSr D21 830 112	25	2.5	1.5
7.5	10	3 – 30	EOCR SS 30	HDCr25	25	SMSr D22 530 160	25	2.5	2.5
9.3	12.5	3 – 30	EOCR SS 30	HDCr32	32	SMSr D23 230 190	32	4	2.5
11	15	3 – 30	EOCR SS 30	HDCr32	32	SMSr D23 230 220	50	6	4
15	20	3 – 30	EOCR SS 30	HDCr40	40	SMSr D24 030 290	50	10	6

Typical Applications:

- Frequent Start/Stop functions
- Conveyors
- Cranes
- Machines Tools
- Compressors
- Pumps
- Industries Fans
- Belt Driven Systems
- Doorways & Shutters
- Wood Working Machines

DOL Starters upto 20HP Overall Dimensions and Mounting



SMSR - Smart Motor Starters

DOL REVERSING STARTERS (Standard Units)

Most 3 Phase Motors are capable to run in both directions - Forward and Reverse but are generally used for typical applications which need the Motor to run in both directions - Clockwise and Anti Clockwise. The Reversing DOL Starter generally uses a combination of 2 AC Electro Mechanical Contactors which are wired to facilitate the Motor to run in both directions. The Protection Relay is used the circuit after the Magnetic Contactors. Our SMART - DOL Reversing Starters use the same technology and the protection of the Motor is enhanced remarkably by the use of the Electronic Over Load Relay



Inbuilt Protections:

- Overload
- Phase Loss
- Phase Unbalance

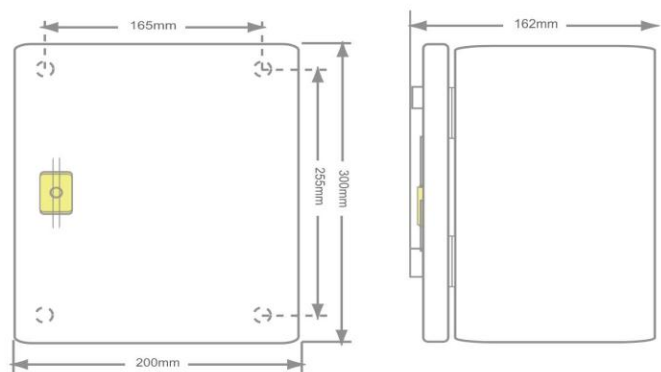
SELECTION CHART FOR DOL REVERSING STARTERS UP TO 20HP With EOCR SS - Electronic Motor Protection Relay

Max. Motor Rating at 415V 3 Phase 50Hz		Overload Relay Range	Overload Relay Reference	Contactor Reference	Contact Rating (Amps)	Starter Code	Recommended Back up Fuse	Cable Size		Gland
KW	HP							Al	Cu	
0.37	0.5	0.4 - 0.8	EMSrl 10.8	HDCr12	12	SMSr D 31208	4	1.5	1.5	
0.55	0.75	0.8 - 1.6	EMSrl 11.6	HDCr12	12	SMSr D 31216	4	1.5	1.5	
0.75	1	0.8 - 1.6	EMSrl 11.6	HDCr12	12	SMSr D 31216	4	1.5	1.5	
1.1	1.5	1.6 - 3.2	EMSrl 13.2	HDCr12	12	SMSr D 31232	6	1.5	1.5	
1.5	2	3.0 - 6.0	EMSrl 16.0	HDCr12	12	SMSr D 31260	10	1.5	1.5	
2.2	3	3.0 - 6.0	EMSrl 16.0	HDCr12	12	SMSr D 31260	10	1.5	1.5	
3.7	5	6.0 - 12.0	EMSrl 112.0	HDCr18	18	SMSr D 318120	20	1.5	1.5	
5.5	7.5	6.0 - 12.0	EMSrl 112.0	HDCr18	18	SMSr D 318120	25	2.5	1.5	
7.5	10	9.0 - 18.0	EMSrl 118.0	HDCr25	25	SMSr D 325180	25	2.5	2.5	
9.3	12.5	12.5 - 25.0	EMSrl 125.0	HDCr32	32	SMSr D 332250	32	4	2.5	
11	15	12.5 - 25.0	EMSrl 125.0	HDCr32	32	SMSr D 332250	50	6	4	
15	20	16.0 - 32.0	EMSrl 32.0	HDCr40	40	SMSr D 340320	50	10	6	

Typical Applications:

- Electric Hoists
- Lathe Machines
- Tapping Machines
- Fans/Blowers
- Reverse Compressors

DOL Reversing Starters upto 20HP Overall Dimensions and Mounting



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STAR DELTA STARTERS (Standard Units)

A Star Delta Starter - also referred to as Wye Delata Starters, are Fully Automatic Star Deltta Starers, where both ends of the Motor three windings are brought out so that they are accessible for reconnecting from Wye to Delta. The Motor starts in the Wye connection (consistin gof 2 AC Magnetic Contactos) and after a timed interval thethe third contactorconnects the Motor in Delta connection. This type of system is ideal for high inertai motors which have long acceleration loads and to limit inrush currents during starting.



Inbuilt Protections:

- Overload
- Phase Loss
- Locked Rotor
- Starting Delay Time

SELECTION CHART FOR STAR DELTA STARTERS - UPTO 60HP With EOCR SS - Electronic Motor Protection Relay

Max. Motor Rating at 415V 3 Phase 50Hz			Overload Relay Reference	Contactor Reference			Starter Code	Recommended Back Up Fuse	Cable Size Supply Side		Cable Size Motor Side		Gland for Cu Cables
KW	HP			Main	Delta	Star			Al	CU	Al	CU	
2.2	3	1.6 - 3.2	EMSr I 1 3.2	HDCr 12	HDCr 9	HDCr 9	SMSr SD21232 (*)	6A	1.5	1.5	1.5	1.5	Pg7
3.7	5	3.0 - 6.0	EMSr I 1 6.0	HDCr 12	HDCr 9	HDCr 9	SMSr SD21260 (*)	10A	1.5	1.5	1.5	1.5	PG7
5.5	7.5	6.0 - 12.0	EMSr I 1 12.0	HDCr 18	HDCr 12	HDCr 12	SMSr SD218120 (*)	16A	2.5	1.5	1.5	1.5	PG7
7.5	10	6.0 - 12.0	EMSr I 1 12.0	HDCr 18	HDCr 12	HDCr 12	SMSr SD218120 (*)	20A	2.5	2.5	1.5	1.5	PG7
9.3	12.5	6.0 - 12.0	EMSr I 1 12.0	HDCr 25	HDCr 18	HDCr 18	SMSr SD225120 (*)	25A	4	2.5	1.5	1.5	PG7
11	15	9.0 - 18.0	EMSr I 1 18.0	HDCr 25	HDCr 18	HDCr 18	SMSr SD225180 (*)	25A	6	4	2.5	2.5	PG7
15	20	12.5 - 25.0	EMSr I 1 25.0	HDCr 32	HDCr 25	HDCr 25	SMSr SD232250 (*)	32A	10	6	4	2.5	PG9
18.5	25	12.5 - 25.0	EMSr I 1 25.0	HDCr 40	HDCr 32	HDCr 32	SMSr SD240250 (*)	50A	16	10	6	4	PG9
22	30	16.0 - 32.0	EMSr I 1 32.0	HDCr 40	HDCr 32	HDCr 32	SMSr SD240320 (*)	50A	16	16	6	6	PG9
26	35	16.0 - 32.0	EMSr I 1 32.0	HDCr 40	HDCr 32	HDCr 32	SMSr SD240320 (*)	63A	25	16	10	6	PG13.5
30	40	20.0 - 40.0	EMSr I 1 40.0	HDCr 50	HDCr 40	HDCr 40	SMSr SD250400 (*)	63A	25	16	10	6	PG13.5
37	50	20.0 - 40.0	EMSr I 1 40.0	HDCr 65	HDCr 50	HDCr 50	SMSr SD265400 (*)	80A	35	25	16	10	PG19
45	60	40.0 - 80.0	EMSr I 1 80.0	HDCr 80	HDCr 65	HDCr 65	SMSr SD280400 (*)	100A	50	35	25	16	PG19

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CONCORD AUTOMATION & CONTROLS

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Dimensions Drawings for SMSr - Smart Motor Starters

Star Delta Starters and star Delta Pump Conyrol Units upto 60HP
Overall Dimensions and Mounting Dimensions
For Starter Reference SMSr SD1 and SMSr Sd2

