

## SPARES



MU Contactor



MN 2



MU Contact Bridge



Spare Kit



MU Coil



Timer ST100

Component	Type	Cat. No.	Std. Pkg. (Nos.)
MU1 Contactor	MU1 110 V	CS94007A000	10
	MU1 240 V	CS94007B000	10
	MU1 360 V	CS94007C000	10
	MU1 415 V	CS94007D000	10
MU2 Contactor	MU2 110 V	CS94008A000	10
	MU2 240 V	CS94008B000	10
	MU2 360 V	CS94008C000	10
	MU2 415 V	CS94008D000	10

### Spare MN 2 Relay

Type of Mounting (Operation)	Relay Range (A)	Cat. No.	Std. Pkg. (Nos.)
(Directly Operated)	3 - 5	SS941410OSO	10
	4.5 - 7.5	SS941410OUU	10
	6 - 10	SS941420OVO	10
Direct mounting	9 - 15	SS941420OBO	10
	14 - 23	SS941440ODO	10
	20 - 33	SS941450OEO	10

### MU Contactor Spares

Type	Cat. No.	Std. Pkg. (Nos.)
MU contact bridge	CS949940000	10
MU1 single contact	CS949950000	1
MU2 single contact	CS949960000	1
MU-Add ON Block - 1NO + 1NC (LHS)	SS940720000	10
MU-Add ON Block - 1NC (LHS)	SS940740000	10

### Spares For MU / MB

Component	Type	Cat. No.	Std. Pkg. (Nos.)
Spare Kit	MU1	CS940100000	1
	MU2	CS940110000	1
MU Coils	110 V	CS94009A000	10
	240 V	CS94009B000	10
	360 V	CS94009C000	10
	415 V	CS94009D000	10

Component	Type	Cat. No.	Std. Pkg. (Nos.)
Spare Relay Extension Knob (Pack of 20 Nos.)	MU1	CS943360000	1
	MU2	CS943370000	1
Spare Housing	MU1	CS949980000	10
	MU2	CS949990000	10

Description	Cat. No.	Std. Pkg. (Nos.)
Electronic Star-Delta Timer Type ST100 160-500 V for 3-30 sec.	ST803280000	1

Product improvement is a continuous process. For the latest information and special applications, please contact our nearest branch office.



## MB Starters

# MB FASD / SASD



## Features of MB Starters

- "Sensitive tripping mechanism of MN Relay" gives reliable protection against single phasing & overload
- Suitable to work efficiently even at 180 V to 415 V
- Bigger terminals for ease of termination
- Reliable operation & performance under adverse field condition viz. Hot & humid environment, supply voltage-unbalance etc.
- Enclosures providing protection against dust, humidity & insects

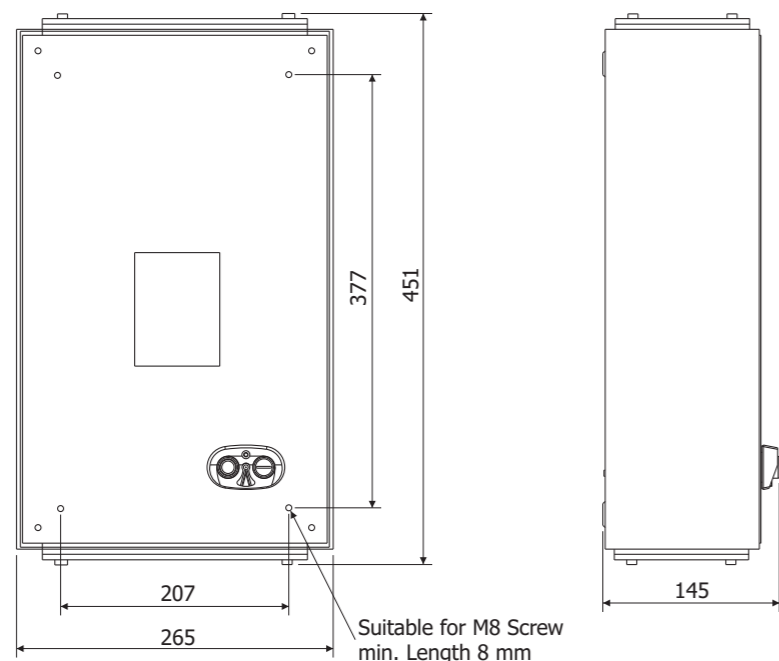
### Technical Details for MB FASD / SASD Starters

Rating	upto 30 HP, 415 V, 3Ø
Contactors	MU1 / MU2
Overload Relay	MN2
Coil Voltage	415 V, 360 V
Pick-up Voltage	50% to +110% Uc
Drop-off Voltage	25% to 35% Uc
Rated Insulation Voltage	690 V
Rated Operational Voltage	415 V AC
Service Temperature	-5°C to 55°C
Conformity to Standard	IS/IEC 60947-4-1
Terminal Capacity	10 sq. mm with Lug
Degree of Protection	IP54
No. of full Start	30 per Hour
Back-up Operation	Type 2 with HF fuses

### Ordering Details for MB FASD / SASD Starters

Starter Type	Suitable for Pump/Motor 3Ø, 415 V, 50 Hz	Relay Range (A)	Cat. No.		Std. Pkg. (Nos.)
			Coil Voltage 360 V	Coil Voltage 415 V	
MB1 FASD (with MN relay)	12.5 HP	9 - 15	SS95894COBO	SS95894DOBO	1
	15 HP	14 - 23	SS95894CODO	SS95894DODO	1
MB2 FASD (with MN relay)	20 HP	14 - 23	SS95896CODO	SS95896DODO	1
	30 HP	20 - 33	SS95896COEO	SS95896DOEO	1
MB1 SASD (with MN relay)	12.5 HP	9 - 15	SS95895COBO	SS95895DOBO	1
	15 HP	14 - 23	SS95895CODO	SS95895DODO	1
MB2 SASD (with MN relay)	20 HP	14 - 23	SS95897CODO	SS95897DODO	1
	30 HP	20 - 33	SS95897COEO	SS95897DOEO	1

## MB FASD / SASD Overall Dimensions



Note: All Dimensions are in mm

# MB DOL



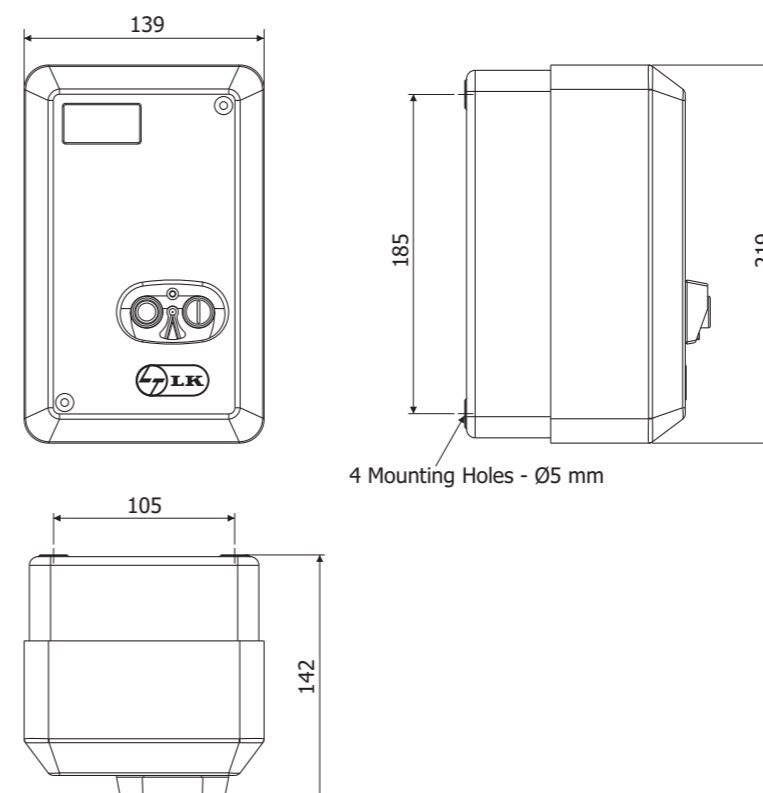
## Applications of MB starters

- DOL Starters-Available upto 15 HP
- Star-delta starters - Available upto 30 HP
- Types : Fully-Automatic / Semi-Automatic

### Ordering Details for MB DOL Starters

Starter Type	Suitable for Pump/Motor 3Ø, 415 V, 50 Hz	Relay Range (A)	Cat. No.		Std. Pkg. (Nos.)
			Coil Voltage 360 V	Coil Voltage 415 V	
MB1 DOL (with MN relay)	7.5 HP	9 - 15	SS95649COBO	SS95649DOBO	8
	10 HP	14 - 23	SS95649CODO	SS95649DODO	8
MB2 DOL (with MN relay)	12.5 HP	14 - 23	SS95650CODO	SS95650DODO	8
	15 HP	20 - 33	SS95650COEO	SS95650DOEO	8

## MB DOL Starter Overall Dimensions



Note: All Dimensions are in mm

### Technical Details for MB DOL Starters

Rating	upto 15 HP, 415 V, 3Ø
Contactors	MU1 / MU2
Overload Relay	MN2
Coil Voltage	415 V, 360 V
Pick-up Voltage	50% to 110% Uc
Drop-off Voltage	25% to 35% Uc
Rated Insulation Voltage	690 V
Rated Operational Voltage	415 V AC
Service Temperature	-5°C to 55°C
Conformity to Standard	IS/IEC 60947-4-1
Terminal Capacity	10 sq. mm with Lug
Degree of Protection	IP54
No. of full Start	30 per Hour
Back-up Operation	Type 2 with HF fuses