

# Motor Starting Solutions Open Type Version, in Kit Form

Softstarter Protected by Manual Motor Starters

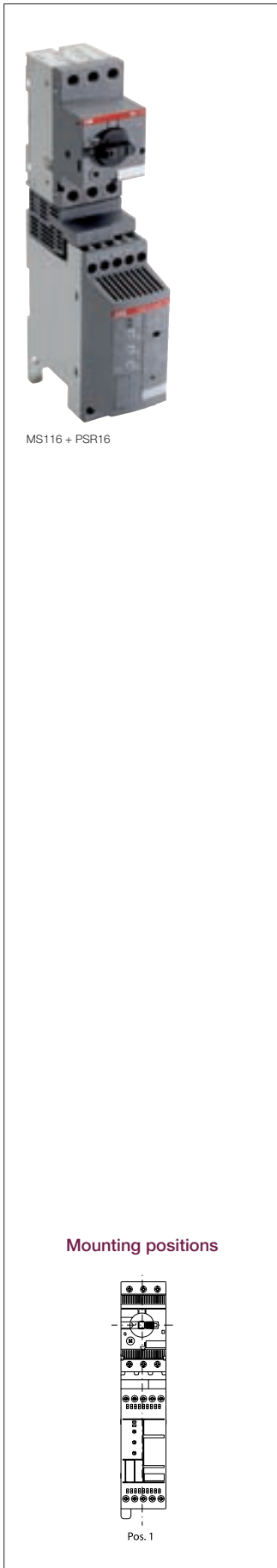


## Switching of 3-phase Cage Motors

Rated power - AC-53a, 400 V		0.25 ... 15 kW
Short-circuit current $I_q$		16 kA - 50 kA
Coordination type		Type 1
Manual motor starters		MS116 ... MS132
Softstarters	AC / DC Operated	PSR3 ... PSR30

# Softstarter Protected by Manual Motor Starters

## Open Type Version in Kit Form



### Application

Softstarters from **PSR3** up to **PSR30** are used for starting and stopping normal standard three phase motors. All applications benefit from soft starting as it reduces the starting current and limits the mechanical stresses when starting, giving the equipment a long life.

One of the most common applications is for the operation of pumps, where soft stopping can be used to avoid water hammering and damage to pipes.

Other common applications are for starting fans, compressors, conveyors, mixers and tooling machines.

### Description

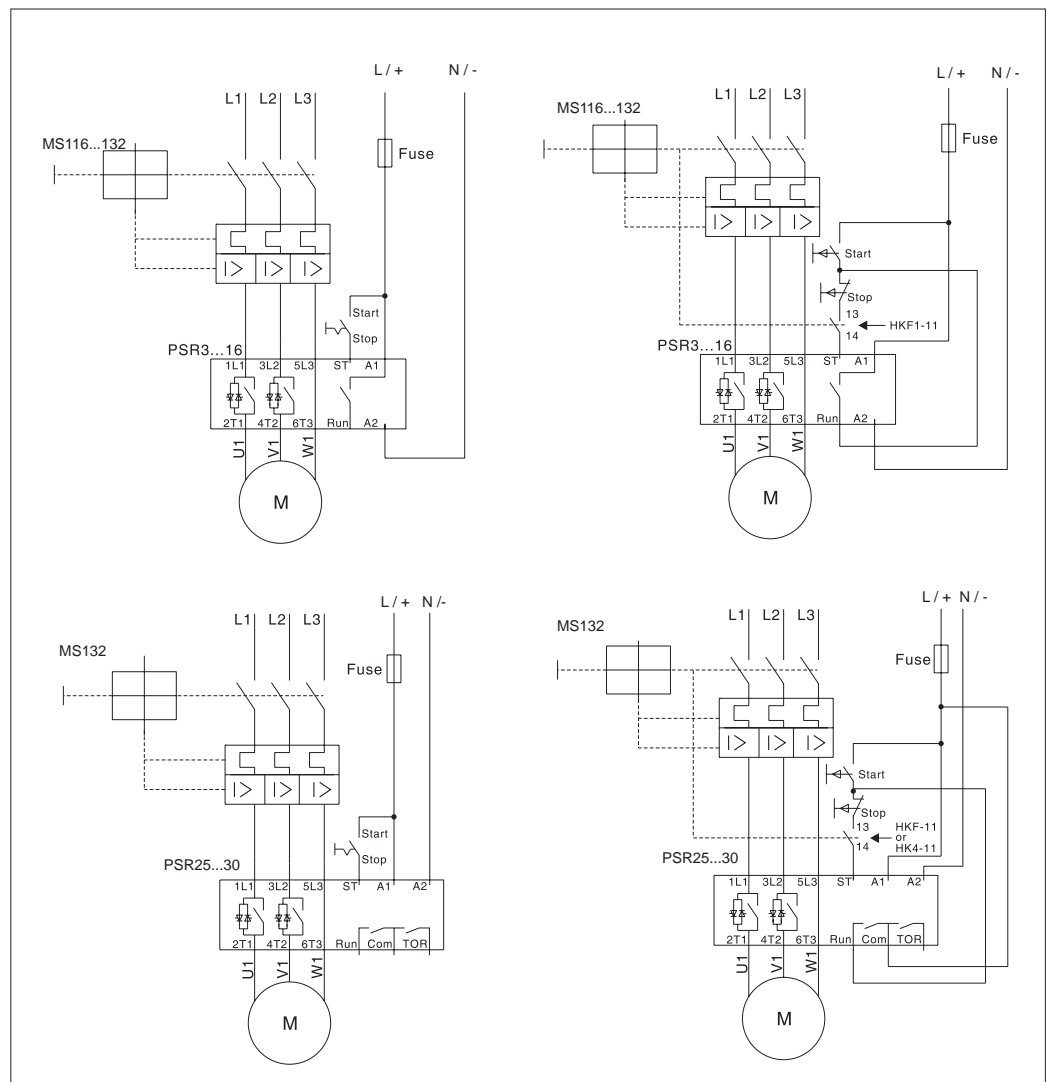
**PSR** softstarters reduce the main voltage during-start using electronically-controlled semiconductors. The **PSR** softstarters offer a very compact design thanks to the built-in by-pass contacts in the main circuit. Wide main voltage range from 208 to 600 V limits the need of variants as well as being very robust and insensitive for voltage variations. The range from 3 A up to 37 A is designed in three frame sizes. The compact design, clear marking and limited need for control wiring makes it easy to install.

### Types

The **PSR** range offers types with 24 V DC as well as a 100...240 V AC supply voltage.

The complete range has a run signal contact, while sizes **PSR25 ... PSR30** also have a top of ramp signal (T.O.R.) indicating the end of the start run. Each size of the **PSR** softstarters can be combined with our manual motor starters (MMS) using the connection kits. This will result in a very compact starter combination.

### Wiring Diagrams



# Softstarter Protected by Manual Motor Starter

## Coordination type 1

Catalogue Page 1SBC 101 266 S0201

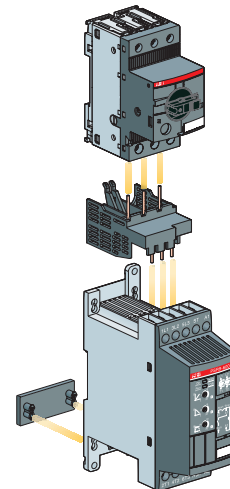


### Coordination Type 1, AC-53a, 16 kA, 400 V, 50/60 Hz, IEC/EN 60947-4-2

		Manual Motor Starters				Connection Kit		Softstarter				
		Type	Order code	Current setting range	Magnetic tripping current	Type	Order code	Aux. Con./ToR	Control voltage	Type	Order code	
IEC AC-53a, 400 V Rated power kW	Rated current A			A	A				V AC 50/60 Hz	V DC		
									—	—		
0.25	0.85	MS116-1.0	1SAM 250 000 R1005	0.63...1.00	11.5	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
0.37	1.1	MS116-1.6	1SAM 250 000 R1006	1.00...1.60	18.4	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
0.55	1.5	MS116-1.6	1SAM 250 000 R1006	1.00...1.60	18.4	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
0.75	1.9	MS116-2.5	1SAM 250 000 R1007	1.60...2.50	28.75	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
1.1	2.7	MS116-4.0	1SAM 250 000 R1008	2.50...4.00	50	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
1.5	3.6	MS116-4.0	1SAM 250 000 R1008	2.50...4.00	50	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
2.2	4.9	MS116-6.3	1SAM 250 000 R1009	4.00...6.30	78.75	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR6-600-70	1SFA 896 104 R7000
									—	24	PSR6-600-81	1SFA 896 104 R8100
3	6.5	MS116-10	1SAM 250 000 R1010	6.30...10.00	150	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR6-600-70	1SFA 896 104 R7000
									—	24	PSR6-600-81	1SFA 896 104 R8100
4	8.5	MS116-10	1SAM 250 000 R1010	6.30...10.00	150	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR9-600-70	1SFA 896 105 R7000
									—	24	PSR9-600-81	1SFA 896 105 R8100
5.5	11.5	MS116-12	1SAM 250 000 R1012	8.00...12.00	180	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR12-600-70	1SFA 896 106 R7000
									—	24	PSR12-600-81	1SFA 896 106 R8100
7.5	15.5	MS116-16	1SAM 250 000 R1011	10.00...16.00	240	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR16-600-70	1SFA 896 107 R7000
									—	24	PSR16-600-81	1SFA 896 107 R8100
11	22	MS132-25	1SAM 350 000 R1014	20...25	375	PSR30-MS132	1SFA 896 212 R1001	1 / 1	100...240	—	PSR25-600-70	1SFA 896 108 R7000
									—	24	PSR25-600-81	1SFA 896 108 R8100
15	29	MS132-32	1SAM 350 000 R1015	25...32	480	PSR30-MS132	1SFA 896 212 R1001	1 / 1	100...240	—	PSR30-600-70	1SFA 896 109 R7000
									—	24	PSR30-600-81	1SFA 896 109 R8100

### Main Accessories

	Type	Order code
Fieldbus Plug connection AccessoryThe same accessory for all sizes	PS-FBPA	1SFA 896 312 R1002
Connection kit for PSR3-16 and MS116	PSR16-MS116	1SFA 896 211 R1001
Connection kit for PSR30-16 and MS132	PSR30-MS132	1SFA 896 212 R1001
Fan for PSR3-45	PSR-FAN3-45A	1SFA 896 311 R1001



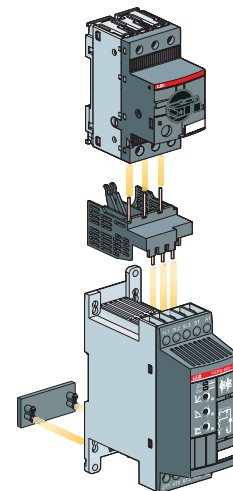
# Softstarter Protected by Manual Motor Starter

## Coordination type 1



### Coordination Type 1, AC-53a, 50 kA, 400 V, 50/60 Hz, IEC/EN 60947-4-2

		Manual Motor Starters				Connection Kit		Softstarter				
IEC	Type	Order code	Current setting range	Magnetic tripping current	Type	Order code	Aux. Con./ToR	Control voltage		Type	Order code	
								V AC 50/60 Hz	V DC			
Rated power kW	Rated current A		A	A								
0.25	0.85	MS116-1.0	1SAM 250 000 R1005	0.63...1.00	11.5	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
0.37	1.1	MS116-1.6	1SAM 250 000 R1006	1.00...1.60	18.4	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
0.55	1.5	MS116-1.6	1SAM 250 000 R1006	1.00...1.60	18.4	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
0.75	1.9	MS116-2.5	1SAM 250 000 R1007	1.60...2.50	28.75	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
1.1	2.7	MS116-4.0	1SAM 250 000 R1008	2.50...4.00	50	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
1.5	3.6	MS116-4.0	1SAM 250 000 R1008	2.50...4.00	50	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR3-600-70	1SFA 896 103 R7000
									—	24	PSR3-600-81	1SFA 896 103 R8100
2.2	4.9	MS116-6.3	1SAM 250 000 R1009	4.00...6.30	78.75	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR6-600-70	1SFA 896 104 R7000
									—	24	PSR6-600-81	1SFA 896 104 R8100
3	6.5	MS116-10	1SAM 250 000 R1010	6.30...10.00	150	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR6-600-70	1SFA 896 104 R7000
									—	24	PSR6-600-81	1SFA 896 104 R8100
4	8.5	MS116-10	1SAM 250 000 R1010	6.30...10.00	150	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR9-600-70	1SFA 896 105 R7000
									—	24	PSR9-600-81	1SFA 896 105 R8100
5.5	11.5	MS132-12	1SAM 350 000 R1012	8.00...12.00	180	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR12-600-70	1SFA 896 106 R7000
									—	24	PSR12-600-81	1SFA 896 106 R8100
7.5	15.5	MS132-16	1SAM 350 000 R1011	10.00...16.00	240	PSR16-MS116	1SFA 896 211 R1001	1	100...240	—	PSR16-600-70	1SFA 896 107 R7000
									—	24	PSR16-600-81	1SFA 896 107 R8100
11	22	MS132-25	1SAM 350 000 R1014	20...25	375	PSR30-MS132	1SFA 896 212 R1001	1 / 1	100...240	—	PSR25-600-70	1SFA 896 108 R7000
									—	24	PSR25-600-81	1SFA 896 108 R8100
15	29	MS132-32	1SAM 350 000 R1015	25...32	480	PSR30-MS132	1SFA 896 212 R1001	1 / 1	100...240	—	PSR30-600-70	1SFA 896 109 R7000
									—	24	PSR30-600-81	1SFA 896 109 R8100

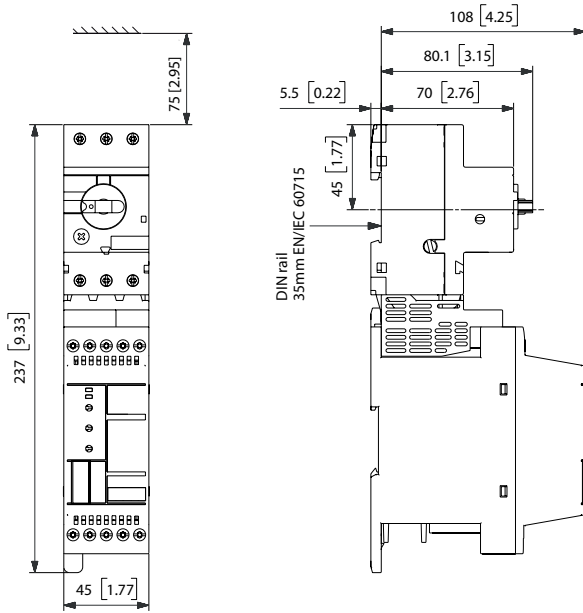


# Softstarter Protected by Manual Motor Starter

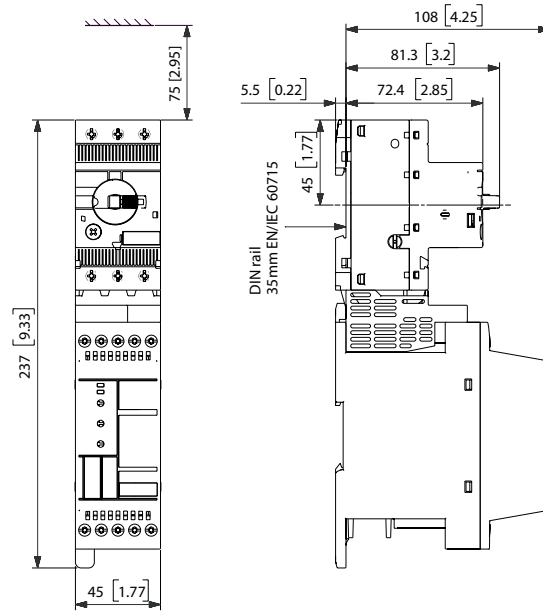
## Open Type Version in Kit Form



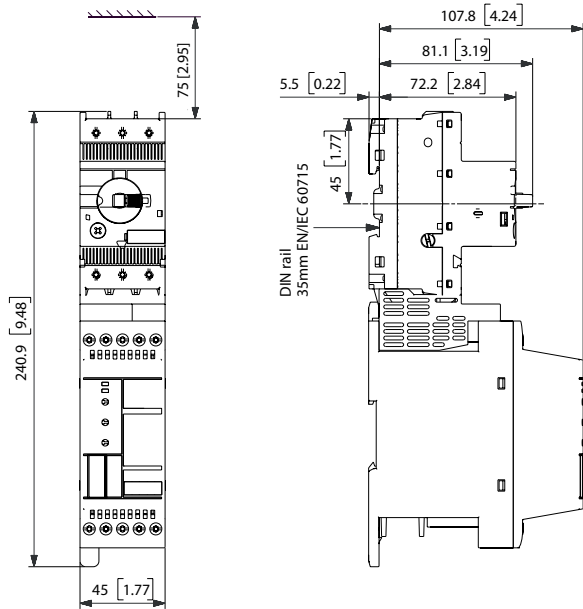
### Dimensions mm, inches



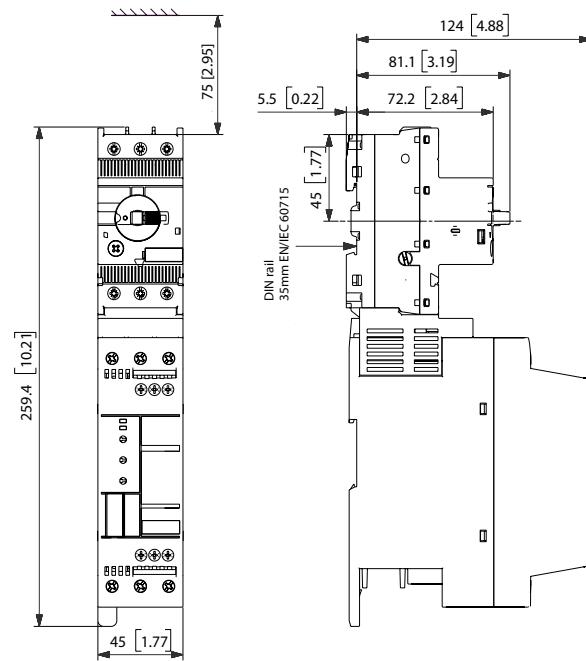
MS116 + PSR16-MS116 + PSR3 ... PSR16



MS132-0.16 ... MS132-10 + PSR16-MS116 + PSR3 ... PSR16



MS132-12 ... MS132-32 + PSR16-MS116 + PSR3 ... PSR16



MS132-12 ... MS132-32 + PSR30-MS132 + PSR25 ... PSR30