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Motor starters for use in the field, high degree of protection

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Motor starters for use in the field, high degree of protection

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Motor starters for use in the field, high degree of protection

Introduction

Overview

Flexible and cost-efficient distributed starter solutions

Be it their high degree of protection, compact design or integrated multifunctionality – our motor starters and soft starters for use in the field are ideal for realizing distributed drive solutions. The modular concepts, distributed power supply and integrated safety technology of our portfolio for a high degree of protection consistently supports current trends in drive technology.

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently

Decision support tool for motor start

This tool guides you to the optimum individual drive solution via a short query about the application.

Based on this solution approach, you will then be directed to the right product configurator for selecting the appropriate products, see www.siemens.com/motorstart-guide.

3RK1304

3RK1315

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ET 200pro motor starters			
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■ Overview

ET 200pro motor starters in ET 200pro I/O system

SIMATIC ET 200pro is the modular I/O system with high degree of protection IP65/IP66/IP67 for cabinet-free use near the machine. The ET 200pro motor starters with the high degree of protection IP65 are an integral part of ET 200pro.

ET 200pro motor starter: Isolator module, Standard starter and High Feature starter mounted on a wide module rack

ET 200pro motor starters (see pages 9/8 and 9/9)

- Only two versions up to 5.5 kW
- All settings can be configured via bus
- Comprehensive diagnostic messages
- Support for PROFIenergy
- Overload can be acknowledged by remote RESET
- Current asymmetry monitoring
- Stall protection
- EMERGENCY-START function on overload
- Current value transmission by bus
- Current limit monitoring
- Full support of acyclic services
- Direct-on-line or reversing starters
- Power bus connection can be plugged in using Han Q4/2 plug-in connectors
- Motor feeder with Han Q8/0 connector
- Conductor cross-sections up to 6 x 4 mm^2
- 25 A per segment (power looped through using jumper plug)
- In the Standard and High Feature versions (with 4 DI on-board)
- Electromechanical switching and electronic switching
- Electronic direct-on-line starter or with integrated soft starter function
- Supplied with 400 V AC brake contact as an option
- Temperature sensor can be connected (Thermoclick or PTC type A)
- Provision of the motor current in PROFIenergy format to higher-level systems, motor current shutdown in dead times using PROFIenergy

More information

Homepage, see www.siemens.com/sirius-motor-starter-et200pro

SiePortal, see www.siemens.com/product?ET200pro

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Further components in the ET 200pro distributed I/O system:
- Interface modules, central processing units, I/O modules, ET 200pro PS, see Catalog ST 70
- ET 200pro FC-2 frequency converters, see Catalog D 31.2

ET 200pro isolator modules (see page 9/10)

The isolator module with switch disconnector function is used for safe disconnection of the 400 V operational voltage during repair work in the plant and provides an integrated group fusing function (i.e. additional group short-circuit protection for all subsequently supplied motor starters).

Depending on the power distribution concept, all stations can be equipped with an isolator module as an option.

Safety applications

PROFIsafe Safety Solution (see page 9/11)

With the PROFIsafe Safety modules
- F-Switch and
- 400 V disconnecting module
with an appropriate connection, safety levels SIL 3 (according to IEC 62061) or PL e (according to ISO 13849-1) can also be reached.

Functionality

With the ET 200pro motor starters, any three-phase loads can be protected and switched.

The ET 200pro motor starters are available with mechanical as well as electronic contacts.

The ET 200pro electromechanical starters are offered as direct-on-line starters (DSe) and reversing starters (RSe) in **Standard** and **High Feature** versions. There are device versions with or without control for externally supplied brakes with 400 V AC.

Compared with the Standard motor starters, the **High Feature mechanical** motor starter also has:
- Four digital inputs
- Advanced parameterization options

The ET 200pro electronic starters are offered as direct-on-line starters (sDSSte/sDSte) and reversing starters (sRSSte/sRSte) in the High Feature version.

Compared with the High Feature mechanical motor starters, the **High Feature electronic** motor starter also has:
- Soft starting and smooth ramp-down function
- Deactivated soft start function as an electronic starter for applications with a high switching frequency
- Advanced parameterization options

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Motor starters for use in the field, high degree of protection
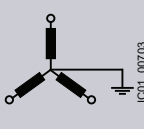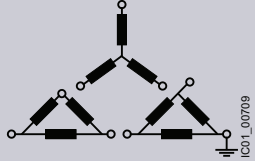## ET 200pro motor starters

General data

As a result of the protection concept with solid-state overload evaluation and the use of SIRIUS switching devices, size S00, additional advantages are achieved with the Standard and High Feature motor starters – advantages that soon make themselves positively felt particularly in manufacturing processes with high plant stoppage costs:

- Plant configuration is made easier and flexibility is increased by the fine modular structure with ET 200pro. When using the ET 200pro motor starters, the bill of materials per load feeder is reduced to two main items: the bus module and the motor starter. This makes the ET 200pro ideal for modular machine concepts or solutions for conveyor systems and in machine-tool construction.

- Expansions are easily possible through the subsequent adding of modules. The innovative plug-in technology also does away with the wiring needed up to now. Through the hot swapping function (disconnection and connection during operation), a motor starter can be replaced within seconds if necessary, without having to shut down the ET 200pro station and with it the process in the plant. The motor starters are therefore recommendable in particular for applications with special demands on availability. Storage costs are also optimized by the low level of variance (two units up to 5.5 kW).

- With four locally acting inputs available on the High Feature motor starter, autonomous special functions can be implemented that operate independently of the bus and the higher-level control system, e.g. as a quick stop on slide valve controls or end position disconnections. In parallel with this, the states of these inputs are signaled to the control system.

Voltage data

The data for 3-phase systems according to IEC 60947-4-1 apply for the following line system configurations:

Voltage U_e	Line system configurations	
	Three-phase four-wire systems	Three-phase three-wire systems
V	V	V
230	--	230
400	230/400	400
440	260/440	440
500	--	500

-- Not specified

Article number schemes

Product versions		Article number				
Motor starters		**3RK1304 – 5 ☐ S ☐ 0 – ☐ A A ☐**				
Setting range	0.15 ... 2.0 A	K				
	1.5 ... 12 A	L				
Product function	Direct-on-line starters DSe		4	4		Standard
	Reversing starters RSe		4	5		Standard
	Direct-on-line starters DSe		4	2		High Feature
	Reversing starters RSe		4	3		High Feature
	Direct-on-line starters sDSSte/sDSte		7	2		High Feature
	Reversing starters sDSSte/sDSte		7	3		High Feature
Inputs/outputs	Without brake output				0	
	With brake output				3	400 V AC, with High Feature + 4 inputs
Example		**3RK1304 – 5 K S 4 0 – 4 A A 0**				

Product versions		Article number	
Modules		**3RK1304 – 0 H S 0 0 – ☐ A A 0**	
Product function	Isolator modules	6	
	400 V disconnecting modules	8	PROFIsafe Safety modules
Example		**3RK1304 – 0 H S 0 0 – 6 A A 0**	

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Motor starters for use in the field, high degree of protection
ET 200pro motor starters

Type		Standard motor starters	High Feature motor starters	
Technology designation[1]		DSe, RSe	DSe, RSe	sDSSte, sDSte, sRSSte, sRSte
Device functions (firmware features)				
Configurable rated operational current		✓		
Integrated short-circuit protection		✓		
Configurable current limit values		--	✓ 2 limit values	
Configurable response in case of current limit violation		--	✓	
Zero current monitoring		✓		
Configurable response in case of zero current violation		✓		
Configurable current asymmetry limit	%	-- Fixed limit value (30 x I_e)	✓ 30 ... 60 x I_e	
Configurable response in case of asymmetry limit violation		✓		
Motor blocking monitoring		--	✓	
Configurable blocking current limit	%	--	✓ 150 ... 1 000 x I_e	
Configurable blocking time limit	s	--	✓ 1 ... 5	
Current value transmission		✓		
Group warning diagnostics		--	✓ Configurable	
Group diagnostics		✓ Configurable		
EMERGENCY START		✓		
Digital inputs • Configurable input signal • Configurable input level • Configurable input signal delay • Configurable input signal extension • Configurable input control actions	 ms ms	-- -- -- -- -- --	✓ 4 inputs ✓ Latching/non-latching ✓ NC/NO contacts ✓ 10 ... 80 ✓ 0 ... 200 ✓ 12 different actions	
Brake output (400 V AC)		✓ Order option		
Configurable brake enabling delay	s	✓ -2.5 ... +2.5		
Configurable holding time of the brake during stopping	s	✓ 0 ... 25		
Configurable startup type		--		✓
Configurable ramp-down time		--		✓
Configurable starting voltage		--		✓
Configurable stopping voltage		--		✓
Local device interface		✓		
Firmware update		✓ By specialists		
Thermal motor model		✓		
Configurable trip class		-- CLASS 10 fixed	✓ CLASS 5, 10, 15, 20	
Configurable response in case of overload of thermal motor model		--	✓ 3 possible states	
Advance warning limit for motor heating	%	--	✓ Configurable 0 ... 95	
Advance warning limit time-related trip reserve	s	--	✓ Configurable 0 ... 500	
Configurable recovery time	min	--	✓ 1 ... 30	
Configurable protection against voltage failure		-- Permanently integrated	✓	
Reversing start function		✓ Order option		
Configurable interlock time for reversing starters		-- 150 ms fixed	✓ 0 ... 60 s	
Integrated logbook functions		✓ 3 device logbooks		
Integrated statistics data memory		✓		
Configurable response in case of CPU/master stop		✓		
PROFIenergy profile support • Disconnection of the motor current during dead times • Measured motor current values		 ✓ ✓		
Device indications • Group fault • Switching state • Device status • Digital inputs		SF LED (red) STATE LED (red, yellow, green) DEVICE LED (red, yellow, green) --	 IN 1 ... IN 4, LED	

✓ Function available

-- Function not available

[1] DS .... Direct-on-line starters
  RS .... Reversing starters
  DSS .. Direct-on-line soft starters
  RSS .. Reversing soft starters
  e .... Electronic motor protection
  te ...... Full motor protection (thermal + electronic)
  s .... Electronic switching with semiconductor.

Motor starters for use in the field, high degree of protection
ET 200pro motor starters

General data

Benefits

ET 200pro motor starters provide the following advantages:
- High flexibility thanks to a modular and compact design
- Low level of variance among all motor starter versions (two devices up to 5.5 kW)
- Extensive parameterization using STEP 7 HW Config
- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Extensive diagnostics and information for preventive maintenance
- Configurable inputs for local control functions (High Feature)
- Cabinet-free design thanks to high degree of protection IP65

Application

The SIMATIC ET 200pro motor starters are ideal for the use of several spatially concentrated distributed drive solutions in which several motors, or digital or analog sensors and actuators are addressed from a distributed station. They are perfectly suited for protecting and switching any three-phase loads.

Application areas

The SIMATIC ET 200pro motor starters are suitable for numerous sectors of industry, e.g. machinery and plant engineering or conveying applications.

Technical specifications

More information	
Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/22332388	Notes on security: System networking requires suitable protective measures (including network segmentation for IT security) in order to ensure safe plant operation. For more information on industrial cybersecurity, see www.siemens.com/cybersecurity-industry.

Type		Standard motor starters	High Feature motor starters	
		Mechanical switching without inputs	Mechanical switching with inputs	Electronic switching with inputs and soft starter function
Technology designation[1]		DSe, RSe	DSe, RSe	sDSSte, sDSte, sRSSte, sRSte
Mechanics and environment				
Motor starters or modules that can be connected to ET 200pro With width of 110 mm		max. 8		
Mounting dimensions (W x H x D)				
• Direct-on-line starters and reversing starters	mm	110 x 230 x 150		110 x 230 x 160
Permissible ambient temperature				
• During operation	°C	-25 ... +55, from +40 with derating		
• During storage	°C	-40 ... +70		
Permissible mounting position		Vertical, horizontal		
Vibration resistance according to IEC 60068-2-6	g	2		
Shock resistance according to IEC 60068-2-27	g/ms	Half-sine 15/11		
Degree of protection		IP65		
Pollution degree		3, IEC 60664 (IEC 61131)		
Electrical specifications				
Power consumption at 24 V DC				
• From auxiliary circuit L+/M (U1)	mA	Approx. 40		
• From auxiliary circuit A1/A2 (U2)	mA	Approx. 200		
Rated operational current I_e for power bus	A	25		
Rated operational voltage U_e	V AC	400 (50/60 Hz)		
• Approval according to EN 60947-1, Annex N	V AC	Up to 400 (50/60 Hz)		Up to 400 (50/60 Hz)
• Approval according to CSA and UL	V AC	Up to 600 (50/60 Hz)		Up to 480 (50/60 Hz)
Approval				
• DIN VDE 0106, Part 101	V	Up to 400		Up to 480
• CSA and UL approval	V	Up to 600		Up to 480
Conductor cross-sections				
• Incoming power supply	mm^2	Max. 6 x 4		
Touch protection		Finger-safe		
Rated impulse withstand voltage U_{imp}	kV	6		
Rated insulation voltage U_i	V	400		
Rated operational current I_e for starters				
• AC-1, AC-2, AC-3, AC-3e at 40 °C				
- At 400 V	A	0.15 ... 2.0/1.5 ... 12.0		0.15 ... 2.0/1.5 ... 12.0[2]
- At 500 V	A	0.15 ... 2.0/1.5 ... 9.0		
• AC-4 at 40 °C				
- At 400 V	A	0.15 ... 2.0/1.5 ... 4.0		
Rated short-circuit breaking capacity	kA	100 at 400 V		
Type of coordination according to IEC 60947-4-1		1		
Power of three-phase motors at 400 V	kW	Max. 5.5		Max. 5.5/4[3]
Utilization categories		AC-1, AC-3, AC-3e, AC-4		AC-53a[4] (max. 9 A with deactivated soft start function up to CLASS 10)
Protective separation between main and auxiliary circuits	V	400, according to EN 60947-1, Annex N		
Endurance of contactor				
• Mechanical	Operating cycles	30 million		--
• Electrical	Operating cycles	Up to 10 million; depending on the current load (see Equipment Manual)		--
Permissible switching frequency		Depending on the current load, motor starting time, and relative ON period (see Equipment Manual)		
Operating times for 0.85 ... 1.1 x U_e				
• Closing delay	ms	11 ... 50		--
• Opening delay	ms	5 ... 45		--

[1] DS .... Direct-on-line starters
RS .... Reversing starters
DSS .. Direct-on-line soft starters
RSS .. Reversing soft starters
e .... Electronic motor protection
te ...... Full motor protection (thermal + electronic)
s .... Electronic switching with semiconductor.

[2] If the soft starter control function is deactivated, the permissible rated operational current is reduced to 9 A up to CLASS 10.

[3] With parameterization as electronic starter max. 4 kW.

[4] 8-hour operation.

Motor starters for use in the field, high degree of protection
ET 200pro motor starters

Standard motor starters `IE3/IE4 ready` `AC-3e`

Overview

The functionality, device functions, and technical specifications of the Standard motor starter are described in ET 200pro motor starters, General data (see page 9/3 onwards).

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Standard motor starters, mechanical **Motor protection: thermal model**					
Direct-on-line starters DSe[1]					
• Without brake output	3RK1304-5□S40-4AA0		1	1 unit	42D
• With brake output 400 V AC	3RK1304-5□S40-4AA3		1	1 unit	42D
Reversing starters RSe[1]					
• Without brake output	3RK1304-5□S40-5AA0		1	1 unit	42D
• With brake output 400 V AC	3RK1304-5□S40-5AA3		1	1 unit	42D
Setting range **Rated operational current**		Add. price			
• 0.15 ... 2.0 A	K	None			
• 1.5 ... 12.0 A	L	✓			

DSe Standard

✓ = Additional price

[1] Only function when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see Accessories for ET 200pro motor starters, page 9/17).

Motor starters for use in the field, high degree of protection
ET 200pro motor starters

| AC-3e | *IE3/IE4* ready | High Feature motor starters |

■ Overview

The functionality, device functions, and technical specifications of the High Feature motor starter are described in ET 200pro motor starters, General data (see page 9/3 onwards).

The High Feature motor starter differs from the Standard motor starter in having more parameters and four integrated, freely-configurable digital inputs.

■ Selection and ordering data

Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
High Feature motor starters, mechanical Motor protection: thermal model						
Direct-on-line starters DSe[1]						
• Without brake output and with 4 inputs		3RK1304-5□S40-2AA0		1	1 unit	42D
• With brake output 400 V AC and 4 inputs		3RK1304-5□S40-2AA3		1	1 unit	42D
Reversing starters RSe[1]						
• Without brake output and with 4 inputs		3RK1304-5□S40-3AA0		1	1 unit	42D
• With brake output 400 V AC and 4 inputs		3RK1304-5□S40-3AA3		1	1 unit	42D
Setting range Rated operational current			Add. price			
• 0.15 ... 2.0 A	K		None			
• 1.5 ... 12.0 A	L		✓			
High Feature motor starters[2], electronic Full motor protection, comprising thermal motor protection and thermistor motor protection						
Direct-on-line starters sDSSte/sDSte[1][2]						
• Without brake output and with 4 inputs		3RK1304-5□S70-2AA0		1	1 unit	42D
• With brake output 400 V AC and 4 inputs		3RK1304-5□S70-2AA3		1	1 unit	42D
Reversing starters sRSSte/sRSte[1][2]						
• Without brake output and with 4 inputs		3RK1304-5□S70-3AA0		1	1 unit	42D
• With brake output 400 V AC and 4 inputs		3RK1304-5□S70-3AA3		1	1 unit	42D
Setting range Rated operational current			Add. price			
• 0.15 ... 2.0 A	K		None			
• 1.5 ... 12.0 A	L		✓			

RSe High Feature

sRSSte High Feature

✓ = Additional price

[1] Only function when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see Accessories for ET 200pro motor starters, page 9/17).

[2] The electronic motor starters can be used not only as electronic motor starters with a high level of switching frequency but also as fully fledged soft starters for soft starting and stopping. The changeover from motor starter to soft starter takes place through reparameterization in HW Config. Depending on the setting, this results in the following current ranges:
- Parameterization as electronic motor starter: 0.15 to 2 A and 1.5 to 9 A (4 kW).
- Parameterization as soft starter: 0.15 to 2 A and 1.5 to 12 A (5.5 kW).

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* You can order this quantity or a multiple thereof.
Illustrations are approximate

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Motor starters for use in the field, high degree of protection
ET 200pro motor starters

ET 200pro isolator modules   `IE3/IE4 ready`

◼ Overview

The isolator module with integrated group fusing function (i.e. additional group short-circuit protection for all subsequently supplied motor starters) and switch disconnector function is used for safe disconnection of the 400 V operational voltage during repair work in the plant.

Depending on the power distribution concept, all stations can be equipped with an isolator module as an option.

The following properties apply to the isolator module:
• Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
• Cabinet-free design thanks to high degree of protection IP65

◼ Technical specifications

Type		Isolator modules
General data		
Mounting dimensions (W x H x D)		
• Direct-on-line starters and reversing starters	mm	110 x 230 x 170
Permissible ambient temperature		
• During operation	°C	-25 ... +55
• During storage	°C	-40 ... +70
Permissible mounting position		Any
Vibration resistance according to IEC 60068-2-6	g	2
Shock resistance according to IEC 60068-2-27	g/ms	Half-sine 15/11
Power consumption		
• From auxiliary circuit L+/M (U1)	mA	Approx. 20
• From auxiliary circuit A1/A2 (U2)		--
Rated operational current I_e for power bus	A	25
Rated operational voltage U_e	V	400
Approvals according to		
• DIN VDE 0106, Part 101	V	Up to 500
• CSA and UL	V	Up to 600
Conductor cross-sections		
• Incoming power supply	mm^2	Max. 6 x 4

Type		Isolator modules
Degree of protection		IP65
Touch protection		Finger-safe
Pollution degree		3, IEC 60664 (IEC 61131)
Rated impulse withstand voltage U_{imp}	kV	6
Rated insulation voltage U_i	V	400
Rated operational current I_e for starters		
• AC-1, AC-2, AC-3 at 40 °C		
- At 400 V	A	25
- At 500 V	A	25
Rated short-circuit breaking capacity	kA	50 at 400 V
Type of coordination according to IEC 60947-4-1		2
Protective separation between main and auxiliary circuits	V	400, according to DIN VDE 0106, Part 101
Device functions		
• Group diagnostics		Yes, configurable
Device indications		
• Group fault		SF LED (red)

◼ Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
ET 200pro isolator modules, mechanical					
Isolator module[1] Rated operational current 25 A	**3RK1304-0HS00-6AA0**		1	1 unit	42D

3RK1304-0HS00-6AA0

[1] Only functions when used together with the related 110 mm backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately .

Motor starters for use in the field, high degree of protection
ET 200pro motor starters

Overview

PROFIsafe Safety Solution

With the PROFIsafe Safety modules
- F-Switch and
- 400 V disconnecting module

with an appropriate connection, safety levels SIL 3 (according to IEC 62061) or PL e (according to ISO 13849-1) can be reached.

PROFIsafe F-Switch

Fail-safe digital inputs/outputs in degrees of protection IP65 to IP67 for cabinet-free use near the machine.

Fail-safe digital inputs

- For the fail-safe reading in of sensor information (1-/2-channel)
- Including integrated discrepancy evaluation for 2v2 signals
- Internal sensor supplies (including testing) available

Fail-safe digital outputs

- Three fail-safe PP-switching outputs for safe switching of the backplane busbars

The F-Switch is certified up to SIL 3/PL e and has detailed diagnostics. It supports PROFIsafe in PROFIBUS configurations as well as in PROFINET configurations.

Note:

Safety characteristics,

Functionality

The PROFIsafe F-Switch is a fail-safe solid-state module for PROFIsafe safety applications. It has two fail-safe inputs and outputs for safe switching of the 24 V supply over backplane busbars. In combination with the 400 V disconnecting module, fail-safe shutdown of ET 200pro motor starters is possible in PROFIsafe applications up to SIL 3/PL e.

400 V disconnecting module

The 400 V disconnecting module enables the safe disconnection of an operational voltage of 400 V up to SIL 3/PL e. For operation in a PROFIsafe Safety application it functions only in combination with the F-Switch.

Functionality

The 400 V disconnecting module can be used together with the F-Switch for PROFIsafe Safety applications. It contains two contactors connected in series for safety-related disconnection of the main circuit. The auxiliary circuit supply of the device is provided via a safety power rail in the backplane bus module. The 400 V disconnecting module can be used in conjunction with the F-Switch for safety applications up to SIL 3/PL e.

Technical specifications

Type		400 V disconnecting module
General data		
Mounting dimensions (W x H x D) • Direct-on-line starters and reversing starters	mm	110 x 230 x 150
Permissible ambient temperature • During operation • During storage	°C °C	-25 ... +55 -40 ... +70
Permissible mounting position		Any
Vibration resistance according to IEC 60068-2-6	*g*	2
Shock resistance according to IEC 60068-2-27	*g*/ms	Half-sine 15/11
Power consumption • From auxiliary circuit L+/M (U1) • From auxiliary circuit A1/A2 (U2)	mA	Approx. 20 --
Rated operational current I_e for power bus	A	25
Rated operational voltage U_e	V	400 (50/60 Hz)
Approval DIN VDE 0106, Part 101	V	Up to 500
CSA and UL approval	V	Up to 600
Conductor cross-sections Incoming power supply	mm²	Max. 6 x 4
Degree of protection		IP65
Touch protection		Finger-safe
Pollution degree		3, IEC 60664 (IEC 61131)
Rated impulse withstand voltage U_{imp}	kV	6
Rated insulation voltage U_i	V	400

Rated operational current I_e for starters
 	
 • AC-1, AC-2, AC-3 at 40 °C
   - At 400 V
   - At 500 V
	
	 A
	 A
		
		 25
		 25

Rated short-circuit breaking capacity	kA	50 at 400 V
Type of coordination according to IEC 60947-4-1		2
Protective separation between main and auxiliary circuits	V	400, according to DIN VDE 0106, Part 101
Operating times for 0.85 ... 1.1 x U_e • Closing delay • Opening delay	ms ms	25 ... 100 7 ... 10
Device functions • Group diagnostics		Yes, configurable
Device indications • Group fault		SF LED (red)

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Motor starters for use in the field, high degree of protection
ET 200pro motor starters

ET 200pro Safety motor starters Solution PROFIsafe > PROFIsafe Safety modules   *IE3/IE4* ready

■ **Selection and ordering data**

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
PROFIsafe Safety modules					
400 V disconnecting module[1][2] Rated operational current 25 A 3RK1304-0HS00-8AA0 *(image caption)*	**3RK1304-0HS00-8AA0**		1	1 unit	42D
PROFIsafe F-Switch 24 V DC, including bus module Note: Connection module must be ordered separately. 6ES7148-4FS00-0AB0 *(image caption)*	**6ES7148-4FS00-0AB0**		1	1 unit	241
Connection module for F-Switch 24 V DC	**6ES7194-4DA00-0AA0**		1	1 unit	241

[1] The 400 V disconnecting module functions only when used together with the PROFIsafe F-Switch.

[2] The 400 V disconnecting module functions only when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see Accessories for ET 200pro motor starters, page 9/17).

Overview
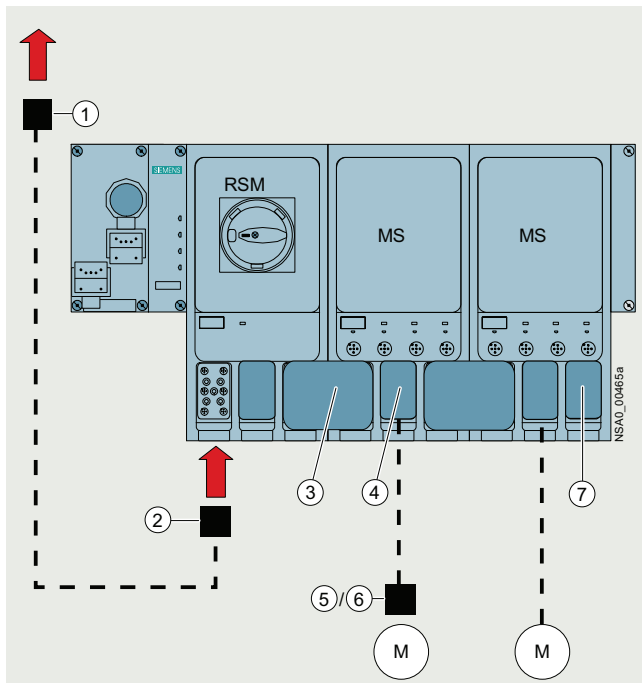
Basic design of an ET 200pro version with (from the left) connection module for IM, interface module for communication (IM), RSM isolator module, two ET 200pro motor starters (MS), and connections for energy

Legend:
① Power feeder plug (see page 9/15)
② Power connection plug (see page 9/15)
③ Power jumper plug (see page 9/15)
④ Motor connection plug (see page 9/15)
⑤ Motor plug (see page 9/15)
⑥ Motor plug with EMC suppressor circuit (see page 9/15)
⑦ Power loop-through plug (see page 9/15)
⑧ Power connecting cable (see page 9/15)
⑨ Power connecting cable for isolator module (see page 9/15)
⑩ Motor cable (see page 9/16)
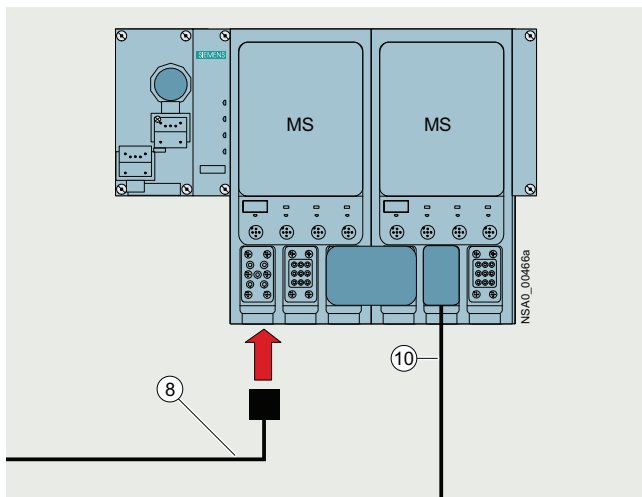
Infeed on the ET 200pro motor starter
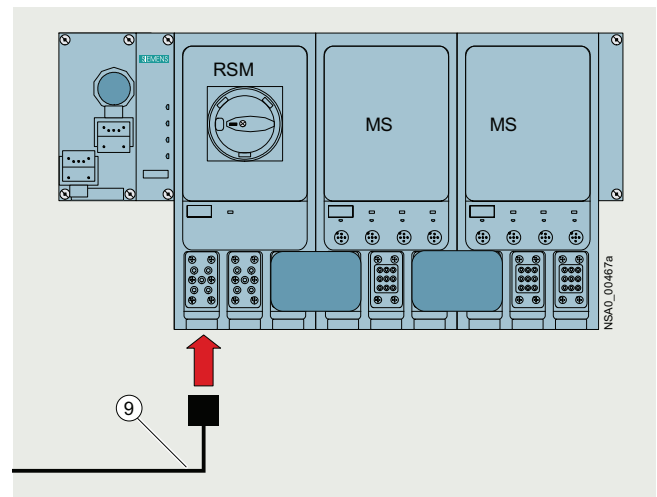
Infeed on the RSM isolator module

Motor starters for use in the field, high degree of protection

ET 200pro motor starters

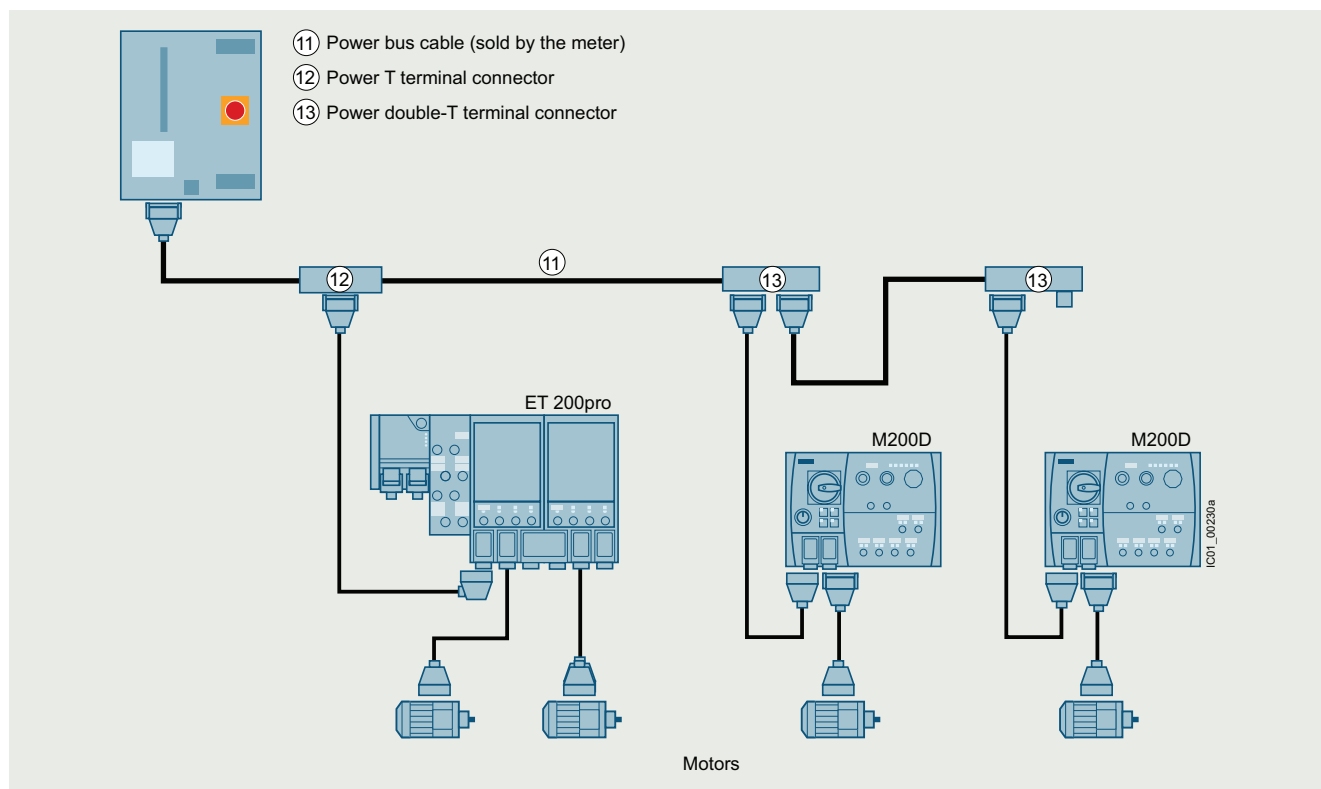**Accessories for ET 200pro motor starters**

Power bus

The power supply to the field devices (ET 200pro motor starters, M200D motor starters) is provided via the power bus, in which the power T terminal connectors or power double-T terminal connectors are connected by power bus cables.

Feeders

From the terminal connectors, spur lines with Han Q4/2 plugs lead to the field devices, from which the motors are supplied with power via motor connection cables.

Interruption-free thanks to power terminal connectors

In finger-safe connection technology the power T terminal connectors and power double-T terminal connectors connect the components of a feeder to the power bus. They ensure interruption-free operation, i.e. the power bus is not interrupted when the components are unplugged.

(11) Power bus cable (sold by the meter)
(12) Power T terminal connector
(13) Power double-T terminal connector

Power supply to the motors via the power bus with power T and double-T terminal connectors linked by power bus cables, spur lines to the field devices (motor starters), and power loop-through connections to the motors via motor connection cables

Motor control via PROFIBUS

The interface modules (IM) for PROFIBUS can be combined with two different connection modules for connecting PROFIBUS DP and the power supply:

- Direct connection with cable gland
- M12, 7/8" connection
  - with M12 connecting cable and M12 plugs for data transmission with PROFIBUS DP
  - with 7/8" connecting cable and 7/8" plugs for the power supply

For connection modules with the relevant accessories, see Accessories for ET 200pro interface modules in Catalog ST 70 or SiePortal.

Motor control via PROFINET

For connection modules with the relevant accessories, see Accessories for ET 200pro interface modules in Catalog ST 70 or SiePortal.

Motor starters for use in the field, high degree of protection
ET 200pro motor starters

Accessories for ET 200pro motor starters

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Incoming power supply					
① **Power feeder plugs** Connector set for incoming power supply, e.g. for connecting to T terminal connectors, comprising a coupling enclosure, straight outgoing feeder (with bracket), pin insert for Han Q4/2, including screw gland					
• 5 contact pins, 2.5 mm^2	3RK1911-2BS60		1	1 unit	42D
• 5 contact pins, 4 mm^2	3RK1911-2BS20		1	1 unit	42D
• 5 contact pins, 6 mm^2	3RK1911-2BS40		1	1 unit	42D
② **Power connection plugs** Connector set for incoming power supply for connection to ET 200pro motor starters/ET 200pro isolator modules, comprising a cable-end connector hood, angled outgoing feeder, socket insert for Han Q4/2, including screw gland					
• 5 contact sockets, 2.5 mm^2	3RK1911-2BE50		1	1 unit	42D
• 5 contact sockets, 4 mm^2	3RK1911-2BE10		1	1 unit	42D
• 5 contact sockets, 6 mm^2	3RK1911-2BE30		1	1 unit	42D
⑧ **Power connecting cables, assembled at one end** Power connecting cable for ET 200pro motor starters, open at one end, for Han Q4/2, angled, 4 x 4 mm^2					
• Length 1.5 m	3RK1911-0DB13		1	1 unit	42D
• Length 5.0 m	3RK1911-0DB33		1	1 unit	42D
⑨ **Power connecting cables for isolator module, assembled at one end** Power connecting cable for ET 200pro isolator modules, open at one end, for Han Q4/2, angled, insert turned at isolator module end, 4 x 4 mm^2					
• Length 1.5 m	3RK1911-0DF13		1	1 unit	42D
• Length 5.0 m	3RK1911-0DF33		1	1 unit	42D
Power loop-through on the field device					
③ **Power jumper plug**	3RK1922-2BQ00		1	1 unit	42D
⑦ **Power loop-through plugs** Connector set for power loop-through for connection to ET 200pro motor starters/ET 200pro isolator modules, comprising a cable-end connector hood, angled outgoing feeder, pin insert for Han Q4/2, including screw gland					
• 4 contact pins, 2.5 mm^2	3RK1911-2BF50		1	1 unit	42D
• 4 contact pins, 4 mm^2	3RK1911-2BF10		1	1 unit	42D
Motor cables					
④ **Motor connection plugs** Connector set for motor cable for connection to ET 200pro motor starters, comprising a cable-end connector hood, angled outgoing feeder, pin insert for Han Q8/0, including screw gland					
• 8 contact pins, 1.5 mm^2	3RK1902-0CE00		1	1 unit	42D
• 6 contact pins, 2.5 mm^2	3RK1902-0CC00		1	1 unit	42D
⑤ **Motor plugs** Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, socket insert for Han 10e, including neutral bridge, including screw gland					
• 7 contact sockets, 1.5 mm^2	3RK1911-2BM21		1	1 set	42D
• 7 contact sockets, 2.5 mm^2	3RK1911-2BM22		1	1 set	42D
⑥ **Motor plugs with EMC suppressor circuit** Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, socket insert for Han 10e with EMC suppressor circuit, including neutral bridge, including screw gland					
• 7 contact sockets, 1.5 mm^2	3RK1911-2BL21		1	1 set	42D
• 7 contact sockets, 2.5 mm^2	3RK1911-2BL22		1	1 set	42D

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* You can order this quantity or a multiple thereof.
Illustrations are approximate

Motor starters for use in the field, high degree of protection
ET 200pro motor starters

Accessories for ET 200pro motor starters

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor cables (continued)					
⑩ **Motor cables, assembled at one end** Open at one end, Han Q8, angled, length 5 m					
• For motor without brake for ET 200pro, 4 x 1.5 mm^2	**3RK1911-0EB31**	1	1 unit	42D
• For motor with brake for ET 200pro, 6 x 1.5 mm^2	**3RK1911-0ED31**	1	1 unit	42D
• For motor without brake with thermistor for ET 200pro, 6 x 1.5 mm^2	**3RK1911-0EF31**	1	1 unit	42D
• For motor with brake and thermistor for ET 200pro, 8 x 1.5 mm^2	**3RK1911-0EG31**	1	1 unit	42D
Power bus					
⑫ **Power T terminal connectors** For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments					
• 2.5 mm^2/4 mm^2	**3RK1911-2BF01**	1	1 unit	42D
• 4 mm^2/6 mm^2	**3RK1911-2BF02**	1	1 unit	42D
⑬ **Power double-T terminal connector** For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments, connection of two motor starters possible					
• 4 mm^2/6 mm^2	**3RK1911-2BG02**	1	1 unit	42D
Sealing set (comprising 2 seals) For power T/power double-T terminal connectors					
• For power cables with Ø 10 ... 13 mm	**3RK1911-5BA00**	1	1 unit	42D
• For power cables with Ø 13 ... 16 mm	**3RK1911-5BA10**	1	1 unit	42D
• For power cables with Ø 16 ... 19 mm	**3RK1911-5BA20**	1	1 unit	42D
• For power cables with Ø 19 ... 22 mm	**3RK1911-5BA30**	1	1 unit	42D
• Blanking plugs	**3RK1911-5BA50**	1	1 unit	42D
Further accessories for power connections					
Crimping tool For pins/sockets, 4 mm^2 and 6 mm^2	**3RK1902-0CW00**	1	1 unit	42D
Dismantling tools					
• For contact pins and sockets for 9-pole Han Q4/2 inserts	**3RK1902-0AB00**	1	1 unit	42D
• For contact pins and sockets for 9-pole Han Q8 inserts	**3RK1902-0AJ00**	1	1 unit	42D
Sealing caps For 9-pole power sockets					
• 1 unit per pack	**3RK1902-0CK00**	1	1 unit	42D
• 10 units per pack	**3RK1902-0CJ00**	1	10 units	42D

3RK1902-0CW00

3RK1902-0CK00

Accessories for ET 200pro motor starters

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Further accessories					
Module racks, wide[1]					
• Length 500 mm	6ES7194-4GB00-0AA0		1	1 unit	250
• Length 1 000 mm	6ES7194-4GB60-0AA0		1	1 unit	250
• Length 2 000 mm	6ES7194-4GB20-0AA0		1	1 unit	250
Module racks, wide, compact[1]					
• Length 500 mm	6ES7194-4GD00-0AA0		1	1 unit	250
• Length 1 000 mm	6ES7194-4GD10-0AA0		1	1 unit	250
• Length 2 000 mm	6ES7194-4GD20-0AA0		1	1 unit	250
Backplane bus module 110 mm[2]	3RK1922-2BA00		1	1 unit	42D
Handheld device For ET 200pro motor starters (or for M200D motor starters) for local operation. Notes: • The motor-starter-specific serial interface cables must be ordered separately. • The RS 232 interface cable 3RK1922-2BP00 is used for the ET 200pro motor starters.	3RK1922-3BA00		1	1 unit	42D
RS 232 interface cable Serial data connection between ET 200pro (or M200D) motor starters and the RS 232 interface of a PC/PG/laptop (with the Motor Starter ES software) or the handheld device 3RK1922-3BA00	3RK1922-2BP00		1	1 unit	42D
USB interface cable, 2.5 m Serial data connection between ET 200pro (or M200D) motor starters and the USB interface of a PC/PG/laptop (with the Motor Starter ES software).	6SL3555-0PA00-2AA0		1	1 unit	368
M12 sealing caps For sealing unused M12 input or output sockets (one set contains ten sealing caps)	3RK1901-1KA00		100	10 units	42C
Motor suppression modules RC element for installation in motor terminal box					
• Angled design	3RK1911-6EA00		1	1 unit	42D
• Round design	3RK1911-6EB00		1	1 unit	42D

3RK1922-3BA00

3RK1901-1KA00

3RK1911-6EA00

3RK1911-6EB00

[1] The wide module rack can accommodate all ET 200pro motor starters and any optional modules (isolator module, 400 V disconnecting module).

[2] The backplane bus module is a prerequisite for operation of ET 200pro motor starters and optional modules.
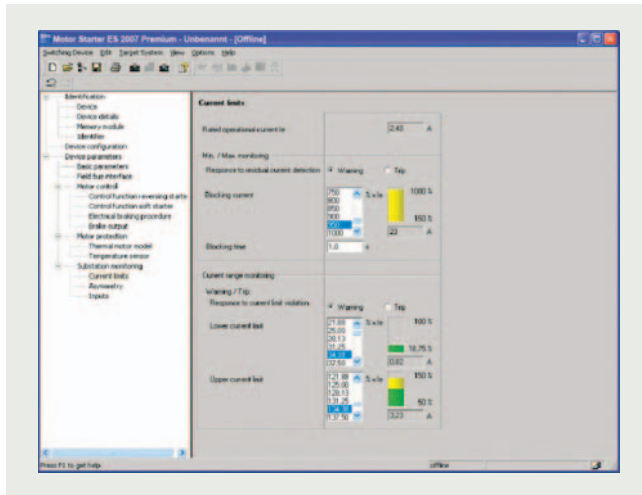
For more connection technology products, see https://support.industry.siemens.com/cs/ww/en/view/65355810.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

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Motor starters for use in the field, high degree of protection
ET 200pro motor starters
Software

Motor Starter ES

■ Overview

Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters

Motor Starter ES is used for the commissioning, parameterization, diagnostics, documentation and preventive maintenance of SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor starters.

The software program is available in three versions which differ in their user-friendliness, scope of functions and price.

Overview

SIRIUS M200D AS-i Basic motor starter with manual local operation

The intelligent and highly flexible SIRIUS M200D motor starters for distributed installation start, monitor and protect motors and loads up to 5.5 kW.
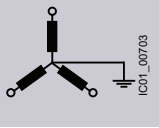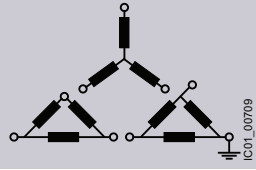
The M200D motor starters are available in four versions:

M200D AS-i Basic	M200D AS-i Standard	M200D PROFIBUS	M200D PROFINET
Motor control with AS-i communication		PROFIBUS	PROFINET
Mechanical or electronic switching			
✓	✓	✓	✓
Electronic switching with soft starter functionality			
--	✓	✓	✓

✓ Function available

-- Function not available

Voltage data

The data for 3-phase systems according to IEC 60947-4-1 apply for the following line system configurations:

Voltage U_e	Line system configurations	
	Three-phase four-wire systems	Three-phase three-wire systems
V	V	V
230	--	230
400	230/400	400
440	260/440	440
500	--	500

-- Not specified

More information

Basic functionality

The versions of the M200D motor starter are equipped with the following properties and functions:

- Available as direct-on-line and reversing starters in a rugged design
- Electromechanical or electronic switching version
- Low variance – only two device versions up to 5.5 kW thanks to wide range setting
- All versions have the same enclosure size.
- Degree of protection IP65
- Quick and fail-safe wiring of system and motor cables using ISO 23570 plug-in connector technology (Q4/2 and Q8/0)
- Robust and widely used M12 connection method for digital inputs and outputs
- Integrated feeder connector monitoring
- Full motor protection through overload protection and a temperature sensor (PTC, TC)
- Short-circuit and overload protection integrated
- Integrated repair switch lockable with three locks (multi-level service)
- Uniform wiring to the SINAMICS G115D and SINAMICS G120D frequency converters and to the ET 200pro distributed I/O system
- Extensive diagnostics concept using LEDs
- Optionally available integrated manual local control with key-operated switch (ordering option)
- Optionally available brake actuation with voltages from 180 V DC (no rectifier needed in motor) or 230/400 V AC (ordering options)

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters

General data

Article number scheme

Product versions		Article number										
Motor starters		**3RK13**	□	**5 – 6**	□	**S**	□	**1 –**	□	**A**	□	□
Type	AS-i Basic		**1**							**A**		
	AS-i Standard		**2**							**A**		
	PROFIBUS/PROFINET		**9**							**D**		
Setting range for rated operational current I_e	0.15 ... 2 A				**K**							
	1.5 ... 9 A				**N**							
	1.5 ... 12 A				**L**							
Starter version	Electromechanical starters						**4**				With integrated contactor	
	Electronic starters						**7**				With thyristors	
Product function	Direct-on-line starters							**0**				
	Reversing starters							**1**				
	Direct-on-line starters							**2**			With manual local operation	
	Reversing starters							**3**			With manual local operation	
Brake actuation	None									**0**		
	230/400 V AC									**3**		
	180 V DC									**5**		
Example		**3RK13**	**1**	**5 – 6**	**K**	**S**	**4**	**1 –**	**3**	**A**	**A**	**0**

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

M200D motor starters provide the following advantages for customers:

- High plant availability through plug-in capability of the main circuit, communication and I/Os – relevant for installing and replacing devices
- Cabinet-free construction and near-motor installation thanks to the high degree of protection IP65
- The motor starters record the actual current flow for the configurable electronic motor overload protection. Reliable messages concerning the overshooting or undershooting of setpoint values ensure comprehensive motor protection. All motor protection functions can be defined by simple parameterization.
- Low stock levels and low order costs thanks to a wide setting range for the electronic motor protection of 1:10 (only two device versions up to 5.5 kW)
- The integrated wide range for the current enables a single device to cover numerous standard motors of different sizes.

- Comprehensive offering of accessories, including ready-assembled cables
- The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay:
  Preassembled cables can be plugged directly onto the motor starter module.
- Easy and user-friendly installation because all versions have the same enclosure dimensions.
- Fast and user-friendly commissioning using optional manual local operation
- Increase of process speed through integrated functions such as "Quick Stop" and "Disable Quick Stop", e.g. at points and crossings
- Optional manual local control with momentary-contact and latching operation for easier commissioning and easier servicing

Application

The high degree of protection IP65 makes the M200D motor starters suitable in particular for use on extensive conveying systems such as are found in mail sorting centers, airports, automotive factories and the packing industry.

For simple drive tasks, particularly in conveyor applications, the new SINAMICS G115D frequency converter series with a performance range from 0.37 kW to 7.5 kW and degree of protection IP65 is the ideal partner for the M200D motor starters.

SINAMICS G115D converters allow for continuous speed control of three-phase asynchronous motors and comply with the requirements of conveyor technology applications with frequency control (for more information, see Catalog D 31.2).

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for AS-Interface

General data

■ Overview

For motor control using AS-Interface there are the following M200D motor starter versions: SIRIUS M200D AS-i Basic and SIRIUS M200D AS-i Standard (basic functionality, see page 9/19 SIRIUS M200D motor starters → General data → Overview).

SIRIUS M200D AS-i Basic

Functionality

- Easy and fast on-site commissioning through parameterization of local setting knobs (DIP switches) and rotary coding switches for adjusting the rated operational current. The rotary coding switch has an OFF position for deactivating the overload protection with the help of the thermal motor model when using a temperature sensor.

Communications

- AS-i communication with A/B addressing according to Spec V2.1
- The AS-i bus is connected cost-effectively using an M12 connection on the device. Of the four digital inputs, two are contained in the process image and can therefore be used in the PLC program. The other two inputs are locally effective and permanently assigned with functions.
- The LEDs can provide comprehensive diagnostics of the device on the spot. In addition to diagnostics using the PII process image, the device can create up to 15 different diagnostic messages per slave. The message with the highest priority can be read out through the AS-i communication. This is yet another new development which distinguishes the M200D AS-i Basic motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

SIRIUS M200D AS-i Standard

The intelligent and highly flexible M200D AS-i Standard motor starter in A/B technology starts and protects motors and loads up to 5.5 kW. It is available in direct-on-line or reversing starter versions, in a mechanical version and also a solid-state version (the latter with soft start function).

The M200D AS-i Standard motor starter is the most functional member of the SIRIUS motor starter family in the high degree of protection IP65 for AS-i communication. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Functionality

- AS-i communication with A/B addressing according to Spec 3.0
- Solid-state version also with soft start function
- AS-i slave profile 7AE/7A5 with process image 6E/4A
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible via AS-i, providing maximum flexibility and best adaptability to the application.
- Additionally expanded diagnostics using data record through AS-i bus
- Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through AS-i bus with the help of data records or an expanded process image from the user program
- Control of the motor starter using a command data record from the user program
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- Parameterization using Motor Starter ES at the local interface (ordering option for commissioning software)
- Diagnostics with the help of Motor Starter ES (ordering option for commissioning software)

Mounting and installation

The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay. Connecting cables can be plugged directly onto the motor starter module. Swapping of the connecting wires and malfunctions within the plant are prevented by preassembled cables. The AS-i bus is connected cost-effectively using an M12 connection on the device. All versions have identical enclosure dimensions for easier system design and conversion.

Parameterization and configuration

The particularly robust M200D AS-i Standard motor starter is characterized by numerous functions which can be flexibly parameterized. It enables highly flexible parameterization through the AS-i bus using data records from the user program as well as user-friendly local parameterization using the Motor Starter ES commissioning software through the local point-to-point interface.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All motor protection functions, limit values and reactions can be defined by parameterization. The AS-i Standard is unique. In its 6E/4A process image the motor starter sends all four digital inputs and the digital output via the process image to the PLC in cyclic mode. System configuration and system documentation are facilitated not least by a number of CAX data.

Operation

The new generation of motor starters is characterized by its advanced functionality, maximum flexibility and extremely high degree of automation.

All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are configurable and therefore adaptable to the application. The motor starters record the actual current flow. Evaluating the current of the configurable electronic overload protection increases the availability of the drives, as do reliable messages concerning the overshooting or undershooting of setpoint values.

Diagnostics and preventive maintenance

The M200D sets new standards for diagnostics. In addition to diagnostics using the PII process image and diagnostics by "parameter echo" (up to 15 different diagnostic messages per slave can be read out via AS-i communication), the possibility of reading out diagnostic data records is unique on the market.

The AS-i Standard is recommended in particular for expansive and highly automated system components because the possibility of monitoring devices and systems with data records (statistical data, measured values and device diagnostics) provides an in-depth view of the plant from the control room, guaranteeing the monitoring process and increasing plant availability.

Preventive maintenance can be carried out with the integrated maintenance timer and plant downtimes prevented as a result in advance.

Local control of a drive is possible using the ordering option with integrated manual local operation. This is yet another new development which distinguishes the M200D AS-i Standard motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the plant.

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for AS-Interface

General data

	SIRIUS M200D AS-i Basic	SIRIUS M200D AS-i Standard
Device functions (firmware features)		
Slave on the bus		
Fieldbus	✓ AS-i	
Slave type	✓ A/B according to Spec 2.1	✓ A/B according to Spec 3.0
Profile	✓ 7.A.E	✓ 7.A.E & 7.A.5
Number of assigned AS-i addresses on the bus	✓ 1	✓ 2
Number of stations per AS-i master	✓ Max. 62 devices	✓ Max. 31 devices
AS-i master profile	✓ M3 and higher	✓ M4 and higher
Parameter assignment		
DIP switches	✓	--
Potentiometer for rated operational current	✓	--
Motor Starter ES	--	✓
Data records through AS-i	--	✓
Diagnostics		
Diagnostics through parameter channel	✓	
Acyclic through data records	--	✓
Expanded process image PII 4 bytes	--	✓
Process image		
Process image	✓ 4E/3A	✓ 6E/4A
Data channels		
Local optical interface (manual local)	✓	
AS-i bus	✓	
Motor Starter ES through local interface	--	✓
Motor Starter ES through bus	--	
Data records[1] (acyclic)		
Parameter assignment	--	✓
Diagnostics	--	✓
Measured values	--	✓
Statistics	--	✓
Commands	--	✓
Inputs		
Number	✓ 4	
• Of these in the process image	✓ 2 through AS-i	✓ 4 through AS-i
Input n action	✓ For permanently assigned functions, see Equipment Manual	✓ Configurable: flexible
Quick stop	✓ Permanent function: latching, edge-triggered	✓ Configurable function: latching (edge-triggered), non-latching (level-triggered)
Outputs		
Number	✓ 1	
Output n action	✓ Permanent function: assigned with group fault	✓ Configurable: For function, see Equipment Manual
Brake output		
180 V DC; 230/400 V AC; none	✓	
Motor protection		
Overload protection	✓ Electronic, wide range 1:10	
Short-circuit protection	✓	
Full motor protection	✓	
Temperature sensor	✓ Configurable using DIP switches: PTC or Thermoclick or deactivated	✓ Configurable via Motor Starter ES, data record: PTC or Thermoclick or deactivated

✓ Function available

-- Function not available

[1] The data records are a reduced selection compared with PROFIBUS/PROFINET.

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for AS-Interface

	SIRIUS M200D AS-i Basic		SIRIUS M200D AS-i Standard	
Device functions (firmware features) (continued)				
Device function				
Repair switch	✓			
Current limit monitoring bottom	--		✓	Configurable
Current limit monitoring top	--		✓	Configurable
Residual current detection	✓	Permanent function: disconnection, less than 18.75% of the rated operational current I_e	✓	Configurable
Blocking current	✓	Permanent function: starting up of the motor: Tripping limit up to 800% of the rated operational current I_e for 10 s	✓	Configurable
		Active operation: Threshold for tripping "blocking current" up to 400% of the rated operational current I_e		
Asymmetry	✓	Permanent function: up to 30% of the rated operational current I_e (only mechanical motor starter)	✓	Configurable
Load type	✓	Permanent function: 3-phase	✓	Configurable: 1-phase and 3-phase
Shutdown class	✓	Configurable using DIP switches: CLASS 10/deactivated		Configurable via Motor Starter ES, data record: CLASS 5, 10, 15, 20
Protection against voltage failure	✓		✓	Configurable: activated/deactivated
Soft starter control function				
Soft start function	--		✓	Only solid-state version
Bypass function	--		✓	Only solid-state version

✓ Function available

-- Function not available

Application

The M200D AS-i Standard is particularly suitable for highly automated applications in conveyor systems requiring devices and systems to be monitored to prevent or limit plant downtime. The option of parameterizing the functions of the motor starter or its interfaces also creates the prerequisite for fine-adjustment to the function of the motor starter in the application and hence provides for extreme flexibility.

Technical specifications

More information	
Manuals for SIRIUS M200D: • AS-i Basic, see https://support.industry.siemens.com/cs/ww/en/view/35016496 • AS-i Standard, see https://support.industry.siemens.com/cs/ww/en/view/38722160 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16324/faq	Notes on security: In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens products and solutions represent one component of such a concept. For more information on industrial cybersecurity, see www.siemens.com/cybersecurity-industry.

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for AS-Interface

General data

Type		M200D motor starters			
		AS-i Basic electromechanical switching	AS-i Basic electronic switching	AS-i Standard electromechanical switching	AS-i Standard electronic switching
Technology designation[1]		DSte/RSte	sDSte/sRSte	DSte/RSte	sDSSte/sRSSte
Mechanics and environment					
Mounting dimensions (W x H x D)	mm	294 x 215 x 159			
Permissible ambient temperature • During operation • During storage	 °C °C	 -25 ... +55 -40 ... +70			
Weight	g	2 880/3 130	3 220/3 420	2 880/3 130	3 220/3 420
Permissible mounting position		Vertical, horizontal, lying			
Vibration resistance according to IEC 60068-2-6	g	2			
Shock resistance • According to IEC 60068-2-27 • Without influencing the contact position	 g/ms g/ms	 12/11 half-sine 9.8/5 or 5.9/10			
Degree of protection according to IEC 529		IP65			
Installation altitude • Up to 1 000 m • Up to 2 000 m		 No derating 1% per 100 m			
Cooling		Convection			
Protection class IEC 536 (DIN VDE 0106-1)		1			
Electrical specifications					
Control circuit					
Operational voltage $U_{\text{AS-i}}$	V DC	26.5 ... 31.6			
Supply voltage U_{aux}	V DC	20.4 ... 28.8			
Power consumption from AS-i (including 200 mA sensor supply)	mA	< 300			
Current consumption from U_{aux} (without digital output) • Max. • Typ.	 mA mA	 155 75	 15 (direct-on-line)/ 175 (reversing) 10 (direct-on-line)/ 75 (reversing)	 155 75	 15 (direct-on-line)/ 175 (reversing) 10 (direct-on-line)/ 75 (reversing)
Main circuit					
Maximum power of three-phase motors at 400 V AC	kW	5.5	4	5.5	5.5
Rated operational voltage U_e • Approval according to IEC 60947-1 • Approval according to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting	 V AC V AC A A A	 400 (50/60 Hz) 600 (50/60 Hz) 0.15 ... 2/1.5 ... 12 -- --	 480 (50/60 Hz) -- 0.15 ... 2/1.5 ... 9	 400 (50/60 Hz) 600 (50/60 Hz) 0.15 ... 2/1.5 ... 12 -- --	 480 (50/60 Hz) -- 0.15 ... 2/1.5 ... 12 0.15 ... 2/1.5 ... 9
Rated operational current I_e for starters at 400 V AC • 400 V at AC-1, AC-3 and AC-3e • 500 V at AC-1, AC-3 and AC-3e • 400 V at AC-4 • 400 V at AC-53a	 A A A A	 12 9 4 --	 -- -- -- 9	 12 9 4 --	 -- -- -- 12 for soft starting 9 for direct-on-line starting
Mechanical endurance of contactor	Operating cycles	30 million	--	30 million	--
Trip class		CLASS 10		CLASS 5, 10, 15, 20	
Type of coordination according to IEC 60947-4-1		1 (2 for device version 2A)	1	1 (2 for device version 2A)	1
Permissible switching frequency		See Equipment Manual		See Equipment Manual	
Rated ultimate short-circuit breaking capacity I_q • At 400 V AC • At 500 V AC	 kA kA	 50 50[2]	 20[2]	 50	 20[2]
Short-circuit protection • At $I_{\text{emax}} = 2$ A • At $I_{\text{emax}} = 9/12$ A		 Integrated, 2 x 3 I_e = 26 A Integrated, 2 x 3 I_e = 208 A			
Brake actuation (option)					
Operational voltage	V	230/400 AC or 180 DC			
Uninterrupted current	A	< 0.5 at 230/400 V AC < 0.8 at 180 V DC			
Short-circuit protection		Yes, 1 A melting fuse			

[1] DS .... Direct-on-line starters
RS .... Reversing starters
DSS .. Direct-on-line soft starters
RSS .. Reversing soft starters
te ...... Full motor protection (thermal + electronic)
s .... Electronic switching with semiconductor.

[2] Only systems with grounded neutral point permitted.

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for AS-Interface

| AC-3e | *IE3/IE4* ready | M200D Basic motor starters |

Selection and ordering data

M200D AS-i Basic without manual local operation

M200D AS-i Basic with manual local operation

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Electromechanical starters (with integrated contactor)					
	3RK1315-6□S41-□AA□		1	1 unit	42D
Setting range for rated operational current		Add. price			
• 0.15 ... 2 A	K	None			
• 1.5 ... 12 A	L	✓			
Direct-on-line starters/reversing starters					
• Direct-on-line starters	0	None			
• Reversing starters	1	✓			
• Direct-on-line starters with manual local operation	2	✓			
• Reversing starters with manual local operation	3	✓			
Brake actuation					
• Without brake actuation	0	None			
• Brake actuation (230/400 V AC)	3	✓			
• Brake actuation (180 V DC)	5	✓			
Electronic starters (with thyristors)					
	3RK1315-6□S71-□AA□		1	1 unit	42D
Setting range for rated operational current		Add. price			
• 0.15 ... 2 A	K	None			
• 1.5 ... 9 A	N	✓			
Direct-on-line starters/reversing starters					
• Direct-on-line starters	0	None			
• Reversing starters	1	✓			
• Direct-on-line starters with manual local operation	2	✓			
• Reversing starters with manual local operation	3	✓			
Brake actuation					
• Without brake actuation	0	None			
• Brake actuation (230/400 V AC)	3	✓			
• Brake actuation (180 V DC)	5	✓			

✓ = Additional price

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for AS-Interface

M200D Standard motor starters   *IE3/IE4 ready*   AC-3e

■ **Selection and ordering data**

M200D AS-i Standard without manual local operation

M200D AS-i Standard with manual local operation

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Electromechanical starters (with integrated contactor)					
	3RK1325-6□S41-□AA□		1	1 unit	42D
Setting range for rated operational current		Add. price			
• 0.15 ... 2 A	K	None			
• 1.5 ... 12 A	L	✓			
Direct-on-line starters/reversing starters					
• Direct-on-line starters	0	None			
• Reversing starters	1	✓			
• Direct-on-line starters with manual local operation	2	✓			
• Reversing starters with manual local operation	3	✓			
Brake actuation					
• Without brake actuation	0	None			
• Brake actuation (230/400 V AC)	3	✓			
• Brake actuation (180 V DC)	5	✓			
Electronic starters (with thyristors)					
	3RK1325-6□S71-□AA□		1	1 unit	42D
Setting range for rated operational current		Add. price			
• 0.15 ... 2 A	K	None			
• 1.5 ... 12 A	L	✓			
Direct-on-line starters/reversing starters					
• Direct-on-line starters	0	None			
• Reversing starters	1	✓			
• Direct-on-line starters with manual local operation	2	✓			
• Reversing starters with manual local operation	3	✓			
Brake actuation					
• Without brake actuation	0	None			
• Brake actuation (230/400 V AC)	3	✓			
• Brake actuation (180 V DC)	5	✓			

✓ = Additional price

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for PROFIBUS/PROFINET

General data

Overview

The intelligent, highly flexible M200D PROFIBUS/PROFINET motor starters are the most functional motor starters of the SIRIUS motor starter family in the high degree of protection IP65 for PROFIBUS/PROFINET communication.

They start and protect motors and loads up to 5.5 kW. Direct-on-line and reversing starter versions are available in a mechanical version and also a solid-state version (the latter with soft start function).

The particularly robust M200D PROFIBUS/PROFINET motor starters are characterized by numerous functions which can be flexibly parameterized. Their modular design comprises a motor starter module and a communications module.

The M200D PROFINET motor starters enable parameterization integrated in TIA through PROFINET from STEP 7 – in the familiar, user-friendly manner with the look and feel of PROFIBUS.

Functionality
- Basic functionality, see page 9/19 SIRIUS M200D motor starters → General data → Overview
- Solid-state version also with soft start function
- Robust and widely used M12 connection method for the digital inputs and outputs and the PROFIBUS/PROFINET bus connection
- All four digital inputs and two digital outputs exist in the cyclic process image. This provides complete transparency of the process on the control level
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible via the bus, providing maximum flexibility and excellent adaptability to the application
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- Extensive diagnostics concept using LEDs and through the bus with the TIA-compatible mechanisms
- Expanded diagnostics using data records
- Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through PROFIBUS/PROFINET bus with the help of data records from the user program
- Control of the motor starter using a command data record from the user program
- Removable modular control unit – quicker device replacement and therefore lower costs in the event of device failure – since existing wiring is on the control unit and only one device needs to be replaced
- Parameterization in STEP 7 HW Config using Motor Starter ES (ordering option for commissioning software)
- Commissioning and diagnostics with the help of Motor Starter ES (ordering option for commissioning software)
- Trace function through Motor Starter ES for optimized commissioning and tracking of process and device values

Only with PROFINET:
- Just one bus system from the MES level to the devices – no gateways
- More stations on the bus and possible configuration of flexible bus structures
- Automatic re-parameterization in case of device replacement thanks to proximity detection
- Wireless integration of plant segments in difficult environments using WLAN
- Easier expansion of the system thanks to a higher number of stations on the bus and elimination of terminating resistors

M200D motor starter module for PROFIBUS/PROFINET (without communications module)

M200D communications module for PROFIBUS

M200D communications module for PROFINET

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for PROFIBUS/PROFINET

General data

Mounting and installation

The M200D PROFIBUS/PROFINET motor starter is comprised of the communications module and the motor starter module. Only the motor starter module has to be replaced therefore when replacing devices. This saves time and money. The communications module remains as an active station on the bus and all other system components continue running. This prevents downtimes.

The integrated plug-in technology enables far lower wiring outlay: Connecting cables can be plugged directly onto the motor starter module. The PROFINET bus is connected cost-effectively using an M12 connection on the device. All versions have identical enclosure dimensions for easier system design and conversion.

Parameterization and configuration

All motor protection functions, limit values and reactions can be defined by parameterization.

The user has several user-friendly options for the parameterization. In addition to parameterization directly from STEP 7, which also permits automatic re-parameterization in case of device replacement, it is possible to use the user-friendly Motor Starter ES commissioning software. By connecting a programming device directly to PROFIBUS/PROFINET and the Motor Starter ES commissioning software, the devices can also be conveniently programmed from a central point through the bus. Also, parameters can be changed during operation from the user program using the data record mechanism so that the function of the motor starter is adapted to the process when required. With the help of a PC and the Motor Starter ES software it is also possible to perform the parameterization through the local point-to-point interface on-site.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are configurable and therefore adaptable to the application. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Only with M200D PROFINET motor starters

Thanks to the integrated proximity detection, the device name does not need to be issued manually when a device is replaced. The name is issued automatically by the neighboring devices which note the "names" of the devices in their proximity. No additional commissioning measures are required therefore when replacing a device.

The new motor starter generation is characterized by high functionality, maximum flexibility and the highest level of automation. PROFINET is especially recommended for large-scale and highly automated system components, since the possibility of monitoring the devices or systems with data records (statistical data, measured values and device diagnostics) ensures a broader insight into the plant by the control room, and hence increases the availability of the plant sustainably.

Operation

The motor starters record the actual current flow. Evaluating the current of the configurable electronic overload protection increases the availability of the drives, as do reliable signals concerning the overshooting or undershooting of setpoint values.

Diagnostics and preventive maintenance

Diagnostics is provided through numerous mechanisms – and can be used as the customer prefers.

The motor starter is TIA diagnostics-capable, which means that when a fault is identified, a diagnostic interrupt is distributed, which invokes the diagnostics-OB with a SIMATIC control. The fault can be evaluated as usual in the user program.

The M200D motor starter offers a large variety of diagnostics data through data records. Its functionality is without equal on the market. There are extensive options for reading out data from the motor starter for monitoring devices, systems or processes.

The motor starter is equipped internally with three logbooks for device faults, motor starter trips and events that are issued with a time stamp. These logbooks can be read out of the motor starter at any time in the form of data records and provide the plant operator with plenty of information about the state of his plant and process which he can use to carry out improvements.

With the min/max pointer and statistical data functions it is possible to read out, for example, the maximum internal current values or the number of motor starter connection operations for plant monitoring purposes. This allows deviations in the process to be monitored, but also optimum initial commissioning to take place. The user can draw conclusions about the actual load conditions of the devices in his process and on this basis can optimize his plant maintenance intervals.

The device diagnostics data record contains details of all the states of the motor starter, the device configuration and the communication status as a basis for central monitoring of devices and systems.

With installation and maintenance functions (I&M), information (I&M) on modules employed and data (I&M) specified by the user during configuration, such as location designations, are stored in the motor starter. I&M functions are used for troubleshooting faults and localizing changes in hardware in a plant or checking the system configuration. Reordering a device is particularly easy as the result.

The integrated maintenance timer can be used to implement preventive maintenance and avoid plant downtimes through look-ahead servicing.

Another new addition is the TRACE integrated into the Motor Starter ES software. It can be used to record measured values as a function of time following a trigger event. This enables process flows to be recorded and their timing optimized.

Local control of a drive is possible using the ordering option with integrated manual operation. This is yet another new development which distinguishes the M200D PROFIBUS/PROFINET motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

M200D PROFINET motor starters with PROFIenergy

Increasing energy prices, far-reaching ecological problems worldwide and the threat of climate change make it necessary for you to be more conscious about your use of energy.

Active and effective energy management is possible with PROFIenergy.

PROFIenergy is a manufacturer-independent profile on PROFINET, which can be used by all manufacturers, has been standardized by PNO[1] and supports switching off electrical devices during dead times and measuring the energy flow.

[1] In the PNO (PROFIBUS Nutzerorganisation e. V. – PROFIBUS User Organization), manufacturers and users have come together to agree on the PROFIBUS and PROFINET standardized communication technologies.

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for PROFIBUS/PROFINET

General data

Switching off during dead times

PROFIenergy supports the targeted switching-off of loads during dead times.

These can be planned short breaks of a few minutes (such as lunch breaks), longer dead times (such as nights) or unplanned dead times. Energy is always saved when no power is required.

Measuring and visualizing the energy flow as a basis of energy management

The objective of energy management is to optimize the use of energy in a company – from the purchasing of energy through to the consumption of energy – economically and ecologically.

Analyses of energy consumption over time can be used to control energy flows, avoid energy peaks, improve ratings and thus save costs.

PROFIenergy enables consumption data to be read off from the devices in a unified form. This is recorded during operation and can be displayed on a control panel, for example, or transferred to overlying energy management software packages.
This ensures that the measured variables are in a uniform manufacturer-independent form and structure that is available to the user for further processing. These PROFIenergy functions thus provide the basis for active load and energy management during operation.

PROFIenergy in the M200D PROFINET motor starter

The M200D PROFINET motor starter supports the "switching during dead times" and "measured current values" functions of the motor current using PROFIenergy. These are called commands, because they trigger a reaction in the M200D motor starter.

	SIRIUS M200D PROFIBUS	SIRIUS M200D PROFINET
Device functions (firmware features)		
Slave on the bus		
Fieldbus	✓ PROFIBUS to M12	✓ PROFINET to M12
Adjustable number of stations	✓ 1 ... 125	✓ 1 ... 128 with CPU 315, CPU 317 1 ... 1 256 with CPU 319
Parameter assignment		
DIP switches	✓ For address setting and terminating resistor	--
Motor Starter ES	✓ Through bus, optical interface	
PROFIBUS/PROFINET data records	✓	
From STEP 7/HW Config	✓	
Diagnostics		
Acyclic through data records	✓	
Diagnostic interrupt	✓	
Process image		
Process image	✓ 2 bytes PII/2 bytes PIQ	
Data channels		
Local optical interface (manual local)	✓	
Using Motor Starter ES through local interface	✓	
Using Motor Starter ES through bus	✓	
Data records (acyclic)		
Parameter assignment	✓ Using DS 131 (DS = data record)	
Diagnostics	✓ Device-specific DS 92	
Measured values	✓ Measured values DS 94	
Statistics	✓ Statistical data DS 95	
Commands	✓ Using DS 93	
Min/max pointer	✓ Slave pointer DS 96	
Logbook	✓ Using Motor Starter ES and data records: device faults DS 72, tripping operation DS 73, events DS 75	
Device identification	✓ Using DS 100	
I&M data	✓ Using DS 231 ... 234	✓ Using data records 0xAFF0 ... 0xAFF3
Inputs		
Number	✓ 4	
• Of these in the process image	✓ 4	
Input n action	✓ Configurable: For flexibly assignable action, see Equipment Manual	
Quick stop	✓ Configurable: latching, non-latching	

✓ Function available

-- Function not available

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for PROFIBUS/PROFINET

General data

	SIRIUS M200D PROFIBUS	SIRIUS M200D PROFINET
Device functions (firmware features) (continued)		
Outputs		
Number	✓ 2	
• Of these in the process image	✓ 2	
Output n action	✓ Configurable: For flexibly assignable action, see Equipment Manual	
Brake output		
180 V DC; 230/400 V AC; none	✓	
Motor protection		
Overload protection	✓ Electronic, wide range 1:10	
Short-circuit protection	✓	
Full motor protection	✓	
Temperature sensor	✓ Configurable via Motor Starter ES, data record: PTC or Thermoclick or deactivated	
Device function		
Repair switch	✓	
Current limit monitoring bottom	✓ Configurable	
Current limit monitoring top	✓ Configurable	
Residual current detection	✓ Configurable: tripping, warning	
Blocking current	✓ Configurable	
Asymmetry	✓ Configurable	
Load type	✓ Configurable: 1-phase and 3-phase	
Shutdown class	✓ Configurable via Motor Starter ES, data record: CLASS 5, 10, 15, 20	
Protection against voltage failure	✓ Configurable: activated/deactivated	
Support for PROFIenergy profile		
Switching during dead times	--	3
Measured motor current values	--	3
Soft starter control function		
Soft start function	✓	
Bypass function	✓ Only solid-state version	

✓ Function available

-- Function not available

Benefits

M200D PROFINET motor starters with PROFIenergy

Both standards and laws are making environmental protection and energy management increasingly important, as is the desire to cut energy costs in production facilities and thus ensure a sustainable competitive advantage.

It is thus an objective within the industry to save energy and actively reduce CO_2 emissions. By the careful use of valuable resources, the manufacturer-independent PROFIenergy profile on PROFINET can make an active contribution to environmental protection.

Application

M200D PROFIBUS/PROFINET motor starters are particularly suitable for highly automated conveyor applications fully integrated in TIA that meet all needs with regard to the monitoring of devices and systems, as well as preventive maintenance.

Adaptability of the motor starter functions and maximum flexibility of the device enable a broad range of application without any limits. The PROFINET-specific expansions are the best assurance of a future-proof investment.

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for PROFIBUS/PROFINET

General data

Technical specifications

More information	
Equipment Manual for M200D PROFIBUS/PROFINET, see https://support.industry.siemens.com/cs/ww/en/view/38823402 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16325/faq	Notes on security: In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens products and solutions represent one component of such a concept. For more information on industrial cybersecurity, see www.siemens.com/cybersecurity-industry.

Type		M200D PROFIBUS/PROFINET motor starter modules	
		Electromechanical switching	Electronic switching
Technology designation[1]		DSte/RSte	sDSSte/sRSSte
Mechanics and environment			
Mounting dimensions (W x H x D)			
• Without communications module	mm	294 x 215 x 159	
• With communications module	mm	295 x 215 x 163	
Permissible ambient temperature			
• During operation	°C	-25 ... +55	
• During storage	°C	-40 ... +70	
Weight	g	2 820/3 080	3 160/3 360
Permissible mounting position		Vertical, horizontal, lying	
Vibration resistance according to IEC 60068-2-6	g	2	
Shock resistance			
• According to IEC 60068-2-27	g/ms	12/11 half-sine	
• Without influencing the contact position	g/ms	9.8/5 or 5.9/10	
Degree of protection according to IEC 529		IP65	
Installation altitude			
• Up to 1 000 m		No derating	
• Up to 2 000 m		1% per 100 m	
Cooling		Convection	
Protection class IEC 536 (DIN VDE 0106-1)		1	
Electrical specifications			
Main circuit			
Maximum power of three-phase motors at 400 V AC	kW	5.5	
Rated operational voltage U_e			
• Approval according to EN 60947-1	V AC	400 (50/60 Hz)	
• Approval according to UL and CSA	V AC	600 (50/60 Hz)	480 (50/60 Hz)
• Rated operational current range	A	0.15 ... 2/1.5 ... 12	--
• Rated operational current range for soft starting	A	--	0.15 ... 2/1.5 ... 12
• Rated operational current range for direct-on-line starting	A	--	0.15 ... 2/1.5 ... 9
Rated operational current I_e for starters at 400 V AC			
• 400 V at AC-1, AC-3 and AC-3e	A	12	--
• 500 V at AC-1, AC-3 and AC-3e	A	9	--
• 400 V at AC-4	A	4	--
• 400 V at AC-53a	A	--	12 for soft starting, 9 for direct-on-line starting
Mechanical endurance of contactor	Operating cycles	30 million	--
Trip class		CLASS 5, 10, 15, 20	
Permissible switching frequency		See Equipment Manual	
Rated ultimate short-circuit breaking capacity I_q			
• At 400 V AC	kA	50	
• At 500 V AC	kA	50	20[2]
Short-circuit protection			
• At I_{emax} = 2 A		Integrated, 2 x 13 I_e = 26 A	
• At I_{emax} = 9/12 A		Integrated, 2 x 13 I_e = 208 A	

[1] DS .... Direct-on-line starters
RS .... Reversing starters
DSS .. Direct-on-line soft starters
RSS .. Reversing soft starters
te ...... Full motor protection (thermal + electronic)
s .... Electronic switching with semiconductor.

[2] Only systems with grounded neutral point permitted.

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for PROFIBUS/PROFINET

General data

		Line voltage				
		380 V AC	**400 V AC**	**440 V AC**	**480 V AC**	**500 V AC**
Brake voltage with brake actuation 180 V DC[1]						
Operational voltage	V	230/400 AC or 180 DC				
Uninterrupted current	A	< 0.5 at 230/400 V AC, < 0.8 at 180 V DC				
Short-circuit protection		Yes, 1 A melting fuse				
Rectified brake voltage	V DC	171	180	198	216	225
Recommended brake coil voltage for Siemens motors	V DC	170 ... 200	170 ... 200	184 ... 218	184 ... 218	--

[1] Integrated brake actuation supplies DC power supply for the brake.

Type		M200D communications modules	
		For PROFIBUS	**For PROFINET**
Mechanics and environment			
Mounting dimensions (W x H x D)	mm	174 x 139 x 40	
Permissible ambient temperature • During operation • During storage	°C °C	-25 ... +55 -40 ... +70	
Weight	g	300	
Permissible mounting position		Vertical, horizontal, lying	
Vibration resistance according to IEC 60068-2-6	*g*	2	
Shock resistance • According to IEC 60068-2-27 • Without influencing the contact position	*g*/ms *g*/ms	12/11 half-sine 9.8/5 or 5.9/10	
Degree of protection according to IEC 529		IP65	
Installation altitude • Up to 1 000 m • Up to 2 000 m		No derating 1% per 100 m	
Cooling		Convection	
Protection class IEC 536 (DIN VDE 0106-1)		1	
Electrical specifications			
Control circuit			
Operational voltage • $U_{DC24V-NS}$ • $U_{DC24V-S}$	V DC V DC	20.4 ... 28.8 20.4 ... 28.8	
Power consumption from • $U_{DC24V-NS}$ • $U_{DC24V-S}$	mA mA	< 300 < 100	

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
M200D motor starters for PROFIBUS/PROFINET

AC-3e   **Communications modules, motor starter modules**

Selection and ordering data

M200D motor starter module
PROFIBUS/PROFINET
(without communications module)

M200D motor starter
PROFIBUS

M200D motor starter
PROFINET

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
M200D communications modules for PROFIBUS					
Communications module for PROFIBUS M12 connection for communication, 7/8" for 24 V power supply	**3RK1305-0AS01-0AA0**		1	1 unit	42D
M200D communications modules for PROFINET					
Communications module for PROFINET M12 connection for communication, 7/8" for 24 V power supply	**3RK1335-0AS01-0AA0**		1	1 unit	42D
M200D PROFIBUS/PROFINET motor starter modules					

Electromechanical starters (with integrated contactor)

	3RK1395-6▢S41-▢AD▢		1	1 unit	42D
Rated operational current setting range/A		Add. price			
• 0.15 ... 2	K	None			
• 1.5 ... 12	L	✓			
Direct-on-line starters/reversing starters					
• Direct-on-line starters	0	None			
• Reversing starters	1	✓			
• Direct-on-line starters with manual local operation	2	✓			
• Reversing starters with manual local operation	3	✓			
Brake actuation					
• Without brake actuation	0	None			
• Brake actuation (230/400 V AC)	3	✓			
• Brake actuation (180 V DC)	5	✓			

Electronic starters (with thyristors)

	3RK1395-6▢S71-▢AD▢		1	1 unit	42D
Rated operational current setting range/A		Add. price			
• 0.15 ... 2	K	None			
• 1.5 ... 12	L	✓			
Direct-on-line starters/reversing starters					
• Direct-on-line starters	0	None			
• Reversing starters	1	✓			
• Direct-on-line starters with manual local operation	2	✓			
• Reversing starters with manual local operation	3	✓			
Brake actuation					
• Without brake actuation	0	None			
• Brake actuation (230/400 V AC)	3	✓			
• Brake actuation (180 V DC)	5	✓			

✓ = Additional price

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* You can order this quantity or a multiple thereof.
Illustrations are approximate

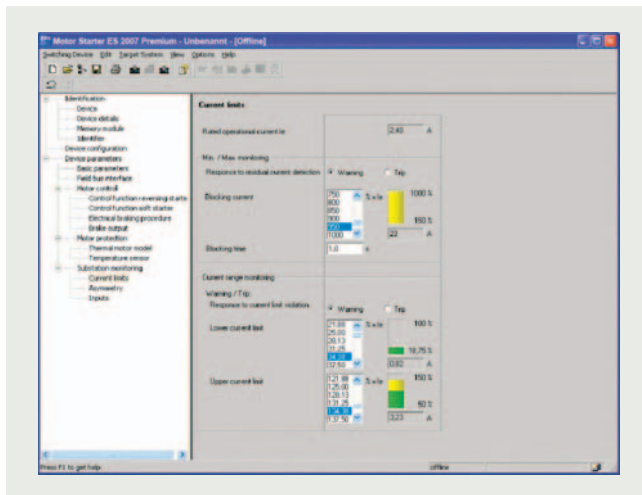Siemens IC 10 · 2025   **9/33**

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Software

Motor Starter ES

■ Overview

Motor Starter ES for parameterization, monitoring, diagnostics and
testing of motor starters

More information

SiePortal, see www.siemens.com/product?3ZS1

Technical specifications and system requirements, see
https://support.industry.siemens.com/cs/ww/en/ps/16713/td

Motor Starter ES is used for the commissioning, parameterization,
diagnostics, documentation and preventive maintenance of
SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor
starters.

The software program is available in three versions which differ
in their user-friendliness, scope of functions and price.

For detailed information on the Motor Starter ES software, see
page 14/10.

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

For all M200D motor starters

Overview

① Power feeder plug
② Power connection plug
③ Power connecting cable
④ Motor connection plug
⑤ Motor plug
⑥ Motor cable
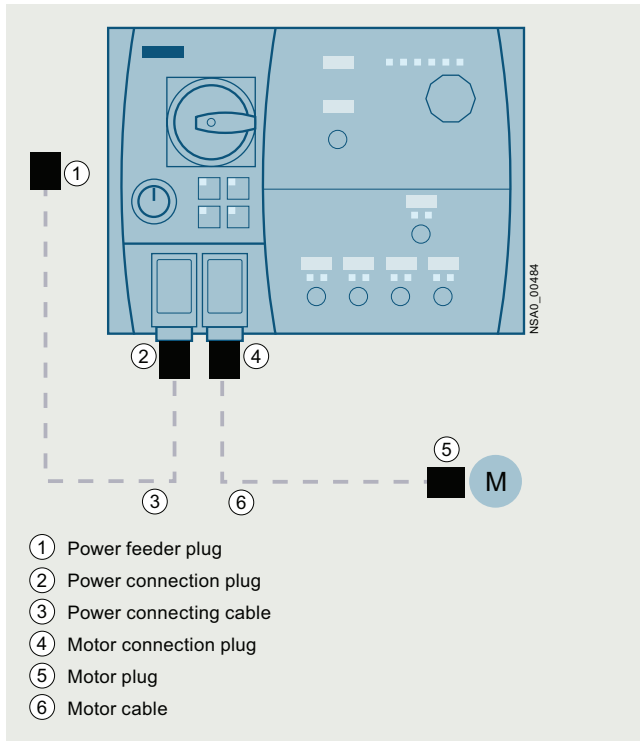
Power and motor connection on the M200D motor starter
(in this example: M200D for AS-i)

⑦ Connection for motor control with AS-i communication
⑧ AS-Interface M12 feeder
⑨ Connection for digital input
  (IO communication, 5-pole)
⑩ Connection for digital output
  (IO communication, 4- or 5-pole)
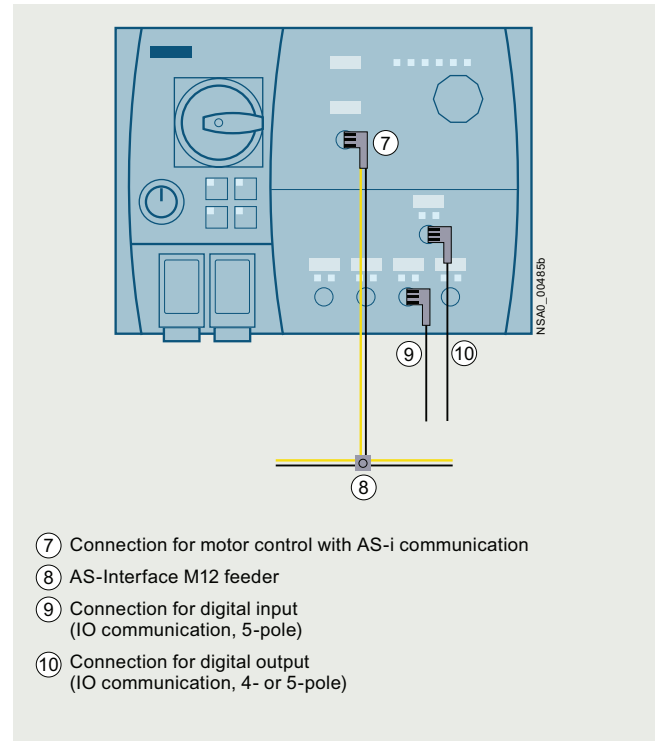
Communication link using AS-Interface and digital inputs and outputs

⑨ Connection for digital input
  (IO communication, 5-pole)
⑩ Connection for digital output
  (IO communication, 4- or 5-pole)
⑪ PROFIBUS connection (input)
⑫ PROFIBUS connection (loop-through)
⑬ Connection for 24 V supply (infeed)
⑭ Connection for 24 V supply (loop-through)
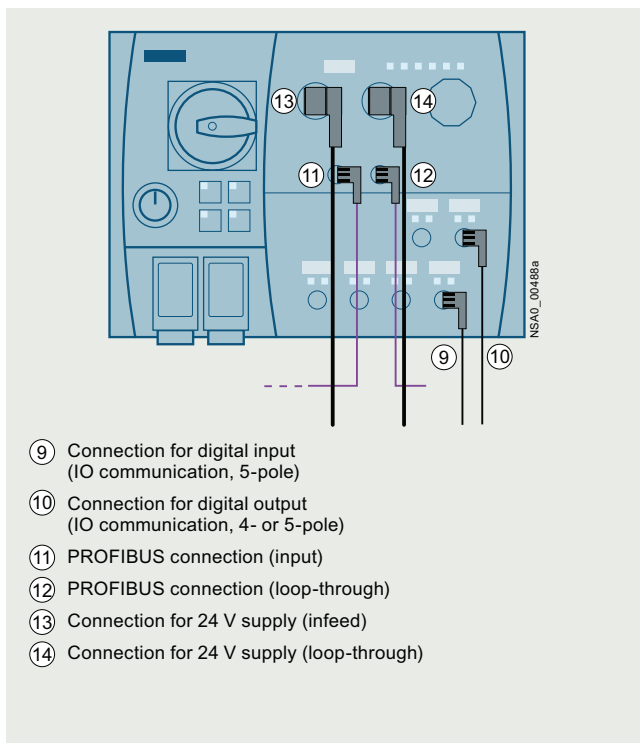
Communication link using PROFIBUS and digital inputs and outputs

⑨ Connection for digital input
  (IO communication, 5-pole)
⑩ Connection for digital output
  (IO communication, 4- or 5-pole)
⑬ Connection for 24 V supply (infeed)
⑭ Connection for 24 V supply (loop-through)
⑮ Connection with PROFINET
  (input on the left, loop-through on the right)
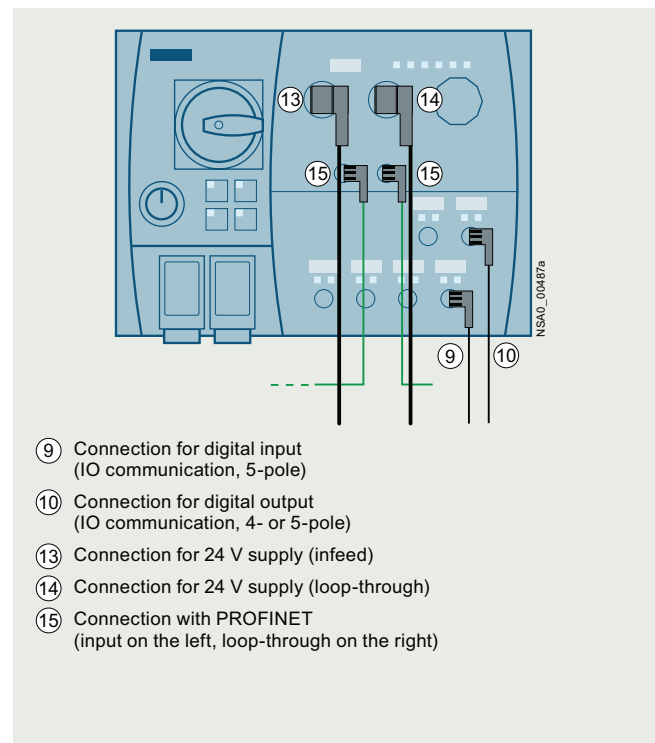
Communication link using PROFINET and digital inputs and outputs

Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

For all M200D motor starters

16 Power bus cable (sold by the meter)
17 Power T terminal connector
18 Power double-T terminal connector

ET 200pro

M200D

M200D
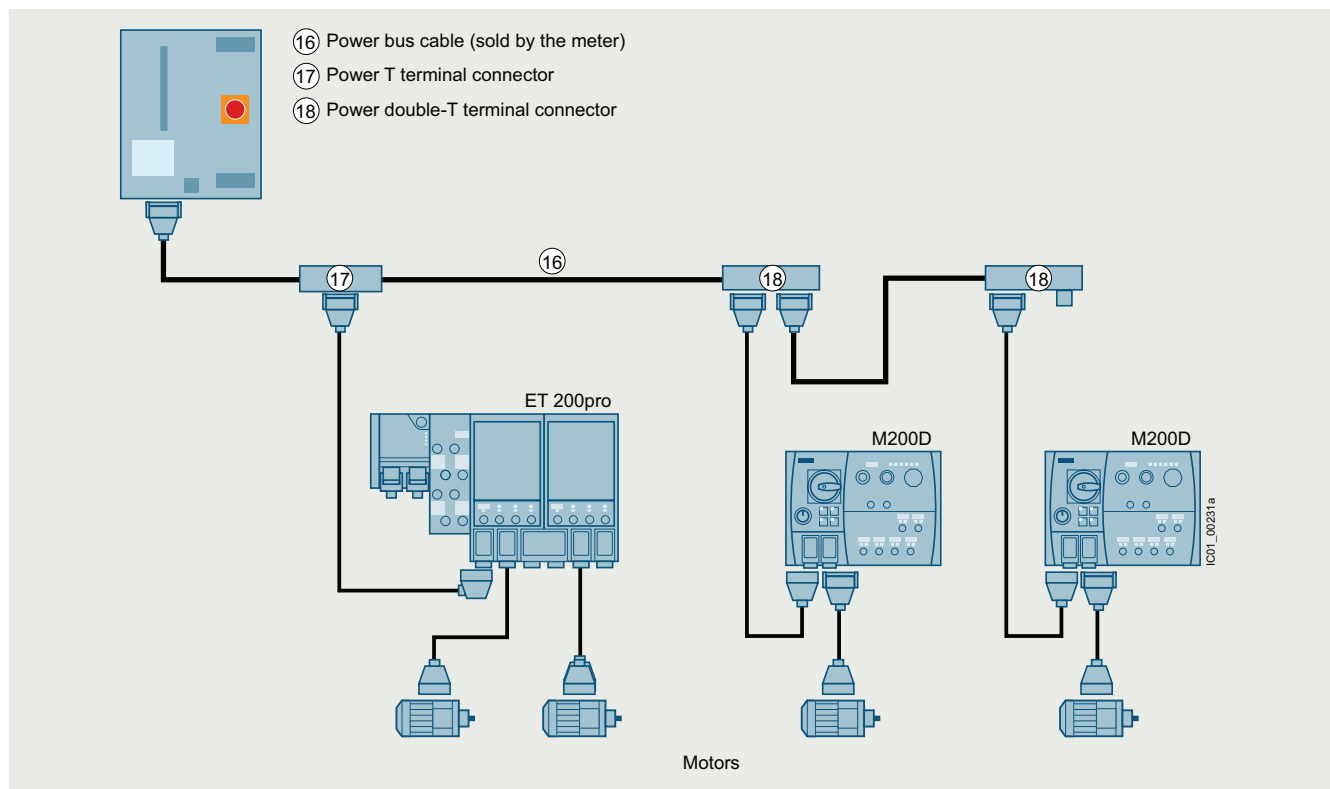
Motors

Power supply to the motors via the power bus with power T and double-T terminal connectors linked by power bus cables, spur lines to the field devices (motor starters), and power loop-through connections to the motors via motor connection cables.

Power bus

The power supply to the field devices (ET 200pro motor starters, M200D motor starters) is provided via the power bus, in which the power T terminal connectors or power double-T terminal connectors are connected by power bus cables.

Feeders

From the terminal connectors, spur lines with Han Q4/2 plugs lead to the field devices, from which the motors are supplied with power via motor connection cables.

Interruption-free thanks to power terminal connectors

In finger-safe connection technology the power T terminal connectors and power double-T terminal connectors connect the components of a feeder to the power bus. They ensure interruption-free operation, i.e. the power bus is not interrupted when the components are unplugged.

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

For all M200D motor starters

Selection and ordering data

The accessories listed below represent a basic selection
sorted by:

- Accessories for all M200D motor starters
- Accessories for M200D motor starters for AS-Interface
- Accessories for M200D motor starters for PROFIBUS
- Accessories for M200D motor starters for PROFINET

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Mountable accessories					
M200D protective brackets	3RK1911-3BA00		1	1 unit	42D
Incoming power supply					
① **Power feeder plugs** Connector set for incoming power supply, e.g. for connecting to T terminal connectors, comprising a coupling enclosure, straight outgoing feeder (with bracket), pin insert for Han Q4/2, including screw gland					
• 5 contact pins, 2.5 mm²	3RK1911-2BS60		1	1 unit	42D
• 5 contact pins, 4 mm²	3RK1911-2BS20		1	1 unit	42D
• 5 contact pins, 6 mm²	3RK1911-2BS40		1	1 unit	42D
② **Power connection plugs** Connector set for incoming power supply for connection to M200D motor starters, comprising a cable-end connector hood, angled outgoing feeder, socket insert for Han Q4/2, including screw gland					
• 5 contact sockets, 2.5 mm², 2 contact sockets, 0.5 mm²	3RK1911-2BE50		1	1 unit	42D
• 5 contact sockets, 4 mm², 2 contact sockets, 0.5 mm²	3RK1911-2BE10		1	1 unit	42D
• 5 contact sockets, 6 mm², 2 contact sockets, 0.5 mm²	3RK1911-2BE30		1	1 unit	42D
② + ③ **Power connecting cables** Assembled at one end with "N" and jumper pin 11 and 12 for plug monitoring, with Han Q4/2, angled; open at one end; 5 x 4 mm²					
• Length 1.5 m	3RK1911-0DC13		1	1 unit	42D
• Length 5.0 m	3RK1911-0DC33		1	1 unit	42D
Motor cables					
④ **Motor connection plugs** Connector set for motor cable for connection to M200D motor starters, comprising a cable-end connector hood, angled outgoing feeder, pin insert for Han Q8/0, including screw gland					
• 8 contact pins, 1.5 mm²	3RK1902-0CE00		1	1 unit	42D
• 6 contact pins, 2.5 mm²	3RK1902-0CC00		1	1 unit	42D
⑤ **Motor plugs** Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, socket insert for Han 10e, including neutral bridge, including screw gland					
• 7 contact sockets, 1.5 mm²	3RK1911-2BM21		1	1 set	42D
• 7 contact sockets, 2.5 mm²	3RK1911-2BM22		1	1 set	42D
④ + ⑥ **Motor cables, assembled at one end** For connection to M200D motor starters, Han Q8/0, angled, length 5 m					
• Motor cable for motor without brake, 4 x 1.5 mm²	3RK1911-0EB31		1	1 unit	42D
• Motor cable for motor without brake with thermistor, 6 x 1.5 mm²	3RK1911-0EF31		1	1 unit	42D
• Motor cable for motor with brake actuation, brake voltage 400 V AC or 180 V DC, 6 x 1.5 mm²	3RK1911-0ED31		1	1 unit	42D
• Motor cable for motor with brake actuation, brake voltage 400 V AC or 180 V DC and thermistor, 8 x 1.5 mm²	3RK1911-0EG31		1	1 unit	42D
• Motor cable for motor with brake actuation, brake voltage 230 V AC, 6 x 1.5 mm²	3RK1911-0EH31		1	1 unit	42D
• Motor cable for motor with brake actuation, brake voltage 230 V AC and thermistor, 8 x 1.5 mm²	3RK1911-0EE31		1	1 unit	42D

* You can order this quantity or a multiple thereof.
Illustrations are approximate

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

For all M200D motor starters

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power bus					
⑰ **Power T terminal connectors** For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments					
• 2.5 mm²/4 mm²	**3RK1911-2BF01**		1	1 unit	42D
• 4 mm²/6 mm²	**3RK1911-2BF02**		1	1 unit	42D
⑱ **Power double-T terminal connector** For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments, connection of two motor starters possible					
• 4 mm²/6 mm²	**3RK1911-2BG02**		1	1 unit	42D
Sealing set (comprising 2 seals) For power T/power double-T terminal connectors					
• For power cables with					
- Ø 10 ... 13 mm	**3RK1911-5BA00**		1	1 unit	42D
- Ø 13 ... 16 mm	**3RK1911-5BA10**		1	1 unit	42D
- Ø 16 ... 19 mm	**3RK1911-5BA20**		1	1 unit	42D
- Ø 19 ... 22 mm	**3RK1911-5BA30**		1	1 unit	42D
• Blanking plug	**3RK1911-5BA50**		1	1 unit	42D
Further accessories for power connections					
Crimping tool for pins/sockets 4 mm² and 6 mm²	**3RK1902-0CW00**		1	1 unit	42D
Dismantling tools					
• For contact pins and sockets for 9-pole Han Q4/2 inserts	**3RK1902-0AB00**		1	1 unit	42D
• For contact pins and sockets for 9-pole Han Q8 inserts	**3RK1902-0AJ00**		1	1 unit	42D
Sealing caps For 9-pole power sockets					
• 1 unit per pack	**3RK1902-0CK00**		1	1 unit	42D
• 10 units per pack	**3RK1902-0CJ00**		1	10 units	42D

3RK1902-0CW00

3RK1902-0CK00

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor control with I/O communication						
3RK1902-4BA00-5AA0	**M12 plug, straight** Screw fixing, 5-pole screw terminals, max. 0.75 mm², A-coded, max. 4 A	**3RK1902-4BA00-5AA0**		1	1 unit	42D
3RK1902-4DA00-5AA0	⑩ **M12 plug, angled** Screw fixing, 5-pole screw terminals, max. 0.75 mm², A-coded, max. 4 A	**3RK1902-4DA00-5AA0**		1	1 unit	42D
3RK1902-4H...-5AA0	⑨, ⑩ **Control cables, assembled at one end** M12 plug, angled, screw fixing, 5-pole, 5 x 0.34 mm², A-coded, black PUR sheath, max. 4 A • Cable length 1.5 m • Cable length 5 m • Cable length 10 m	**3RK1902-4HB15-5AA0** **3RK1902-4HB50-5AA0** **3RK1902-4HC01-5AA0**		1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
3RK1902-4PB15-3AA0	**Control cable, assembled at both ends** Straight M12 plug, straight M12 socket, screw fixing, 3-pole, 3 x 0.34 mm², A-coded, black PUR sheath, max. 4 A • Cable length 1.5 m	**3RK1902-4PB15-3AA0**		1	1 unit	42D
Further accessories						
3RK1922-3BA00	**Handheld device** For M200D motor starters (or for ET 200pro motor starters) for local operation. The motor starter-specific serial interface cables must be ordered separately. The RS 232 interface cable 3RK1922-2BP00 is used for the MS M200D.	**3RK1922-3BA00**		1	1 unit	42D
	RS 232 interface cable Serial data connection between M200D (or ET 200pro) motor starters and the RS232 interface of a PC/PG/laptop (with the Motor Starter ES software) or the handheld device 3RK1922-3BA00	**3RK1922-2BP00**		1	1 unit	42D
	USB interface cable, 2.5 m Serial data connection between M200D (or ET 200pro) motor starters and the USB interface of a PC/PG/laptop (with the Motor Starter ES software)	**6SL3555-0PA00-2AA0**		1	1 unit	368
3RK1901-1KA00	**M12 sealing caps** For sealing unused M12 input or output sockets and M12 sockets for PROFIBUS and PROFINET communications modules (one set contains ten sealing caps)	**3RK1901-1KA00**		100	10 units	42C
3SU1950-0FB80-0AA0	**RONIS SB30 key** Spare key for M200D for "manual local operation" ordering option	**3SU1950-0FB80-0AA0**		1	1 unit	41J

For more connection technology products, see
https://support.industry.siemens.com/cs/ww/en/view/65355810.

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* You can order this quantity or a multiple thereof.
Illustrations are approximate

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

For M200D motor starters for AS-Interface

■ **Selection and ordering data**

Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor control with AS-i communication						

3RK1902-4GB50-4AA0

⑦ **Control cable, assembled at one end**
M12 socket, angled, screw fixing, 4-pole, 4 x 0.34 mm², A-coded, black PUR sheath, max. 4 A

• Cable length 5 m		**3RK1902-4GB50-4AA0**		1	1 unit	42D

3RK1902-4CA00-4AA0

⑦ **M12 socket, angled**
For screw fixing, 4-pole screw terminals, max. 0.75 mm², A-coded, max. 4 A — **3RK1902-4CA00-4AA0** — 1 — 1 unit — 42D

3RK1901-2NR21

⑧ **AS-Interface M12 feeders**
• Current-carrying capacity up to 4 A
• Degree of protection IP67/IP68/IP69 (IP69K)

For flat cable	For	Cable length	Cable end in feeder	Article No.		PU	PS*	PG
AS-i	M12 socket	--	Not available	**3RK1901-2NR10**		1	1 unit	42C
	M12 cable box	1 m	Not available	**3RK1901-2NR11**		1	1 unit	42C
		2 m	Not available	**3RK1901-2NR12**		1	1 unit	42C
AS-i/U_{aux}	M12 socket	--	Not available	**3RK1901-2NR20**		1	1 unit	42C
	M12 cable box	1 m	Not available	**3RK1901-2NR21**		1	1 unit	42C
		2 m	Not available	**3RK1901-2NR22**		1	1 unit	42C

Cable end terminators
For sealing open cable ends of the AS-Interface shaped cable with IP67 — **3RK1901-1MN00** — 1 — 10 units — 42C

3RK1901-1MN00

AS-Interface shaped cables (see also page 2/76)

Material	Color	Quantity	Article No.		PU	PS*	PG
Rubber	Yellow (AS-Interface)	100 m roll	**3RX9010-0AA00**		1	1 unit	42C
		1 km drum	**3RX9012-0AA00**		1	1 unit	42C
	Black (24 V DC)	100 m roll	**3RX9020-0AA00**		1	1 unit	42C
		1 km drum	**3RX9022-0AA00**		1	1 unit	42C
TPE	Yellow (AS-Interface)	100 m roll	**3RX9013-0AA00**		1	1 unit	42C
		1 km drum	**3RX9014-0AA00**		1	1 unit	42C
	Black (24 V DC)	100 m roll	3RX9023-0AA00		1	1 unit	42C
		1 km drum	3RX9024-0AA00		1	1 unit	42C
TPE special version according to UL Class 2	Yellow (AS-Interface)	100 m roll	3RX9017-0AA00		1	1 unit	42C
	Black (24 V DC)	100 m roll	3RX9027-0AA00		1	1 unit	42C
PUR	Yellow (AS-Interface)	100 m roll	**3RX9015-0AA00**		1	1 unit	42C
		1 km drum	**3RX9016-0AA00**		1	1 unit	42C
	Black (24 V DC)	100 m roll	**3RX9025-0AA00**		1	1 unit	42C
		1 km drum	**3RX9026-0AA00**		1	1 unit	42C
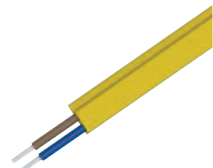
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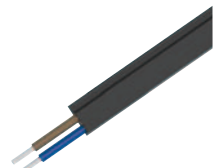
3RX902.-0AA00

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

For M200D motor starters for AS-Interface

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Further accessories					
3RK1904-2AB02 **AS-Interface addressing unit V3.0** • For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 • For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B slaves) • With input/output test function and many other commissioning functions • Battery operation with four type AA batteries (IEC LR6, NEDA 15) • Scope of supply: - Addressing unit with four batteries - Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m	**3RK1904-2AB02**		1	1 unit	42C
3RK1902-4PB15-3AA0 **M12 addressing cable to M12** • Standard M12 cable for addressing slaves with M12 connection, e.g. K60R modules • When using the current version of the 3RK1904-2AB01 addressing unit • 1.5 m	**3RK1902-4PB15-3AA0**		1	1 unit	42D
Equipment Manuals					
M200D AS-Interface Basic motor starters, see https://support.industry.siemens.com/cs/ww/en/view/35016496					
M200D AS-Interface Standard motor starters, see https://support.industry.siemens.com/cs/ww/en/view/38722160					

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Motor starters for use in the field, high degree of protection
SIRIUS M200D motor starters
Accessories

For M200D motor starters for PROFIBUS

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor control with PROFIBUS					
M12 plugs, angled For screw fixing, 5-pole screw terminal, max. 0.75 mm^2, B-coded, no terminating resistor					
• ⑪ 5 contact sockets	**3RK1902-1DA00**		1	1 unit	42D
• ⑫ 5 contact pins	**3RK1902-1BA00**		1	1 unit	42D
Control cables, assembled at one end M12, screw fixing, angled, B-coded, no terminating resistor					
• ⑪ 5 contact sockets, 3 m	**3RK1902-1GB30**		1	1 unit	42D
• ⑪ 5 contact sockets, 5 m	**3RK1902-1GB50**		1	1 unit	42D
• ⑪ 5 contact sockets, 10 m	**3RK1902-1GC10**		1	1 unit	42D
⑪ ⑫ Control cables, assembled at both ends M12, screw fixing, angled, 5-pole plug/socket connectors, B-coded, no terminating resistor					
• 3.0 m	**3RK1902-1NB30**		1	1 unit	42D
• 5.0 m	**3RK1902-1NB50**		1	1 unit	42D
• 10.0 m	**3RK1902-1NC10**		1	1 unit	42D
Further accessories					
PROFIBUS trailing cable Max. acceleration 4 m/s^2, at least 3 000 000 bending cycles, bending radius at least 60 mm, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	**6XV1830-3EH10**		1	1 M	5K2
PROFIBUS FC Food bus cable With PE outer sheath for operation in the food and beverage industry, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	**6XV1830-0GH10**		1	1 M	5K2
PROFIBUS FC Robust bus cable With PUR outer sheath for operation in environments exposed to chemicals and mechanical loads, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	**6XV1830-0JH10**		1	1 M	5K2
Power cable 5-core, 5 x 1.5 mm^2, trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	**6XV1830-8AH10**		1	1 M	5K2
Connection for 24 V power supply of the M200D PROFIBUS/PROFINET					
see page 9/43					
Equipment Manual					
M200D PROFIBUS/PROFINET motor starters, see https://support.industry.siemens.com/cs/ww/en/view/38823402					

Image captions (left column):
3RK1902-1DA00
3RK1902-1BA00
3RK1902-1G.
3RK1902-1N.

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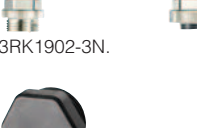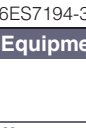**Motor starters for use in the field, high degree of protection**
SIRIUS M200D motor starters
Accessories

For M200D motor starters for PROFINET

■ **Selection and ordering data**

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor control with PROFINET					
⑮ **M12 plug, angled** For screw fixing, 4-pole screw terminal, max. 0.75 mm², angled, D-coded • 4 contact pins	**3RK1902-2DA00**		1	1 unit	42D
⑮ **Control cables, assembled at one end** M12 for screw fixing, angled, 4-pole, D-coded					
• 4 contact pins, 3 m	**3RK1902-2HB30**		1	1 unit	42D
• 4 contact pins, 5 m	**3RK1902-2HB50**		1	1 unit	42D
• 4 contact pins, 10 m	**3RK1902-2HC10**		1	1 unit	42D
⑮ **Control cables, assembled at both ends** M12 for screw fixing, angled at both ends, 4-pole, D-coded, contact pins at both ends					
• 3 m	**3RK1902-2NB30**		1	1 unit	42D
• 5 m	**3RK1902-2NB50**		1	1 unit	42D
• 10 m	**3RK1902-2NC10**		1	1 unit	42D
Further accessories					
PROFINET IE FC TP standard cable GP 2 x 2 Sold by the meter	**6XV1840-2AH10**		1	1 M	5K1
PROFINET IE FC TP trailing cable 2 x 2 Sold by the meter	**6XV1840-3AH10**		1	1 M	5K1
PROFINET IE FC TP trailing cable GP 2 x 2 Sold by the meter	**6XV1870-2D**		1	1 M	5K2
PROFINET IE FC TP torsion cable 2 x 2 Sold by the meter	**6XV1870-2F**		1	1 M	5K2
PROFINET IE FC TP marine cable, 4-core Sold by the meter	**6XV1840-4AH10**		1	1 M	5K1
Power cable 5-core, 5 x 1.5 mm², trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	**6XV1830-8AH10**		1	1 M	5K2

Left image captions:
3RK1902-2H.
3RK1902-2N.

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Connection for 24 V power supply of the M200D PROFIBUS/PROFINET					
Plugs On M200D, 7/8" for screw fixing, angled, screw terminal, 1.5 mm²					
• ⑬ 5 contact sockets	**3RK1902-3DA00**		1	1 unit	42D
• ⑭ 5 contact pins	**3RK1902-3BA00**		1	1 unit	42D
⑬ **Supply lines, assembled at one end** 7/8" for screw fixing, angled, 1.5 mm²					
• 5 contact sockets, 3 m	**3RK1902-3GB30**		1	1 unit	42D
• 5 contact sockets, 5 m	**3RK1902-3GB50**		1	1 unit	42D
• 5 contact sockets, 10 m	**3RK1902-3GC10**		1	1 unit	42D
⑬ ⑭ **Supply lines, assembled at both ends** 7/8", for screw fixing, angled at both ends, 5-pole plug/socket connectors, 1.5 mm²					
• 3 m	**3RK1902-3NB30**		1	1 unit	42D
• 5 m	**3RK1902-3NB50**		1	1 unit	42D
• 10 m	**3RK1902-3NC10**		1	1 unit	42D
7/8" sealing caps 1 pack = 10 units	**6ES7194-3JA00-0AA0**		1	10 units	250
Equipment Manual					
M200D PROFIBUS/PROFINET motor starters, see https://support.industry.siemens.com/cs/ww/en/view/38823402					

Left image captions:
3RK1902-3DA00
3RK1902-3BA00
3RK1902-3G.
3RK1902-3N.
6ES7194-3JA00-0AA0

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* You can order this quantity or a multiple thereof.
Illustrations are approximate

Motor starters for use in the field, high degree of protection

Notes