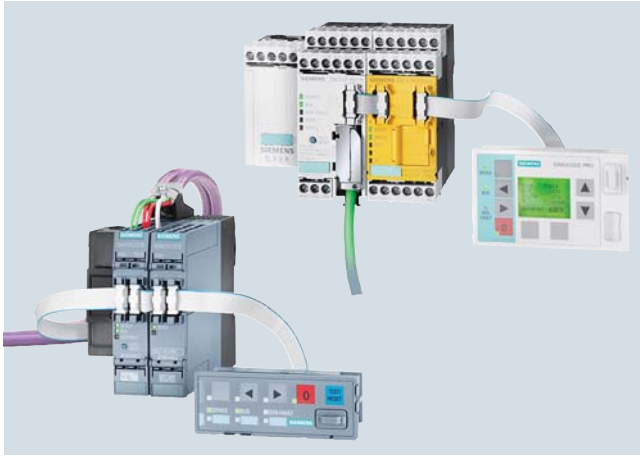## ■ Overview

SIMOCODE pro S for efficient entry into motor management and SIMOCODE pro V for maximum functionality

SIMOCODE pro is a flexible, modular motor management system for motors with constant speeds in the low-voltage performance range. It optimizes the connection between I&C and motor feeder, increases plant availability and allows significant savings to be made for installation, commissioning, operation and maintenance of a system.

When SIMOCODE pro is installed in the low-voltage switchboard, it is the intelligent interface between the higher-level automation system and the motor feeder and includes the following:

• Multifunctional, electronic full motor protection that is independent of the automation system

• Integrated control functions instead of hardware for the motor control

• Detailed operating, service and diagnostics data

• Open communication through PROFIBUS DP, PROFINET and OPC UA

• Safety relay function for the fail-safe disconnection of motors up to SIL 3 (IEC 61508, IEC 62061) or PL e with Category 4 (EN ISO 13849-1)

• SIMOCODE ES is the software package for SIMOCODE pro parameterization, start up and diagnostics.

Device series
SIMOCODE pro is structured into several functionally tiered series:

• SIMOCODE pro C, as a compact system for direct-on-line starters and reversing starters or for controlling a motor starter protector

• SIMOCODE pro S - the smart system for direct-on-line, reversing, and wye-delta starters or for controlling a motor starter protector or soft starter. Its expandability with a multifunction module provides comprehensive input/output project data volume, precise ground-fault detection via the 3UL23 residual-current transformers and temperature measurement.

• SIMOCODE pro V, as a variable system with all control functions and with the possibility of expanding the inputs, outputs and functions of the system at will using expansion modules

Expansion possibilities	SIMOCODE pro C PROFIBUS	pro S PROFIBUS	pro V[1] PROFIBUS[2]	PROFINET
Operator panels	✓	✓	✓	✓
Operator panels with display	--	--	✓	✓
Current measuring modules	✓	✓	✓	✓
Current/voltage measuring modules	--	--	✓	✓
Decoupling modules	--	--	✓	✓
Expansion modules:				
• Digital modules	--	--	2	2
• Fail-safe digital modules[3]	--	--	1	1
• Analog modules	--	--	1	2
• Ground-fault modules	--	--	1	1
• Temperature modules	--	--	1	2
• Multifunction modules	--	1	--	--

✓ Available

-- Not available

[1] Maximum of 5 expansion modules.

[2] When an operator panel with display and/or a decoupling module are used, more restrictions on the number of expansion modules connectable per basic unit must be observed, see page 10/13.

[3] The fail-safe digital module can be used instead of one of the two digital modules.

Per feeder each system always comprises one basic unit and one separate current measuring module. The two modules are connected together electrically through the system interface with a connection cable and can be mounted mechanically connected as a unit (one behind the other) or separately (side by side). The motor current to be monitored is decisive only for the choice of the current measuring module.
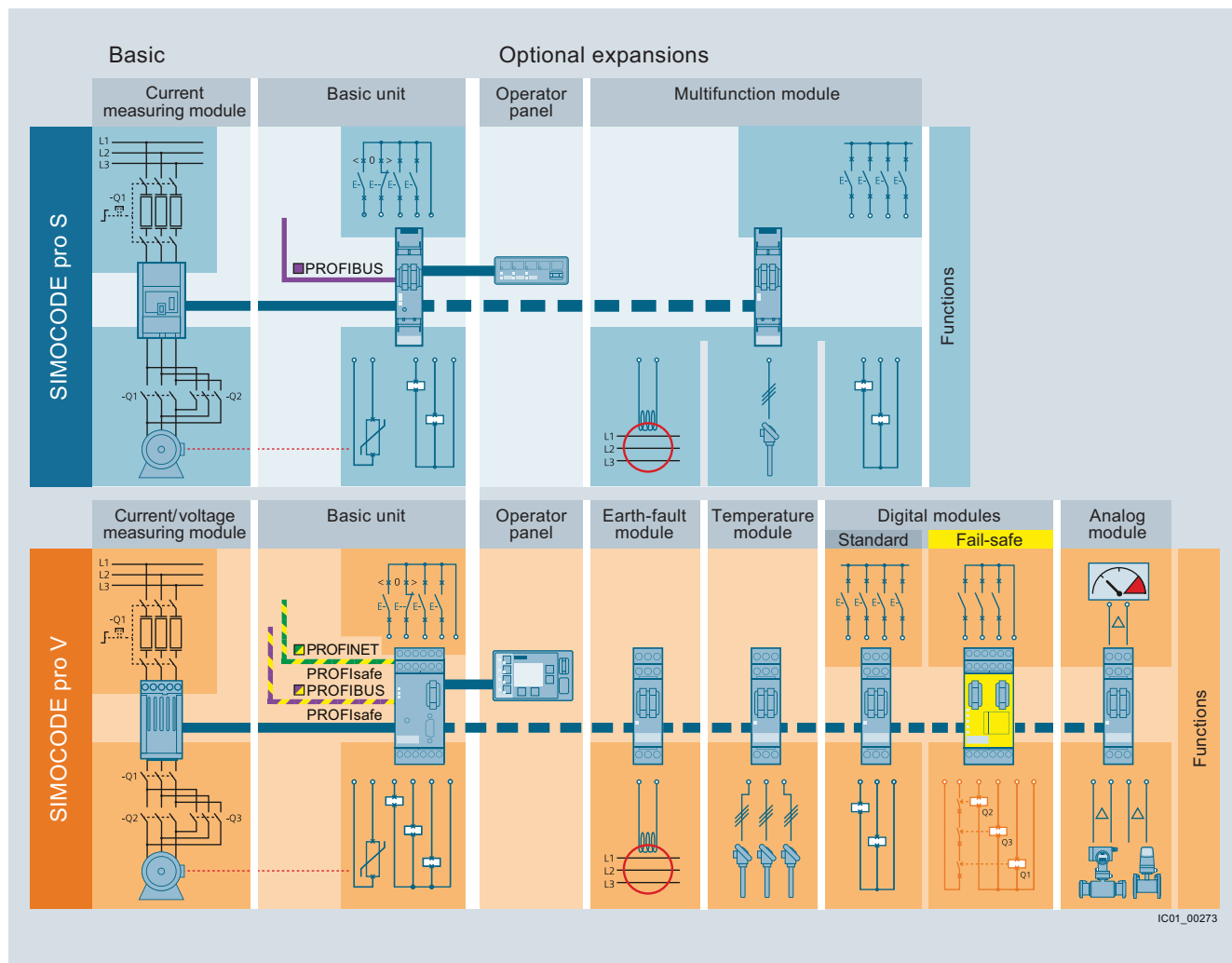
An operator panel for mounting in the control cabinet door is optionally connectable through a second system interface on the basic unit. Both the current measuring module and the operator panel are electrically supplied by the basic unit through the connection cable. More inputs, outputs and functions can be added to the SIMOCODE pro V and SIMOCODE pro S by means of optional expansion modules, thus supplementing the inputs and outputs already existing on the basic unit. With the DM-F Local and DM-F PROFIsafe fail-safe digital modules it is also possible to integrate the fail-safe disconnection of motors in the SIMOCODE pro V motor management system.

All modules are connected by connection cables. The connection cables are available in various lengths. The maximum distance between the modules (e.g. between the basic unit and the current measuring module) must not exceed 2.5 m. The total length of all the connection cables per system interface of the basic unit may be up to 3 m.

10

SIMOCODE 3UF Motor Management and Control Devices
SIMOCODE pro 3UF7

General data

SIMOCODE pro V and SIMOCODE pro S: System structure

SIMOCODE 3UF Motor Management and Control Devices
SIMOCODE pro 3UF7

General data

Detailed operational, service and diagnostics data

SIMOCODE pro makes different operating, service and diagnostics data available and helps to detect potential faults in time and to prevent them by means of preventative measures. In the event of a malfunction, a fault can be diagnosed, localized and rectified very quickly – there are no or very short downtimes.

Operating data

- Motor switching state derived from the current flow in the main circuit
- All phase currents
- All phase voltages and phase-to-phase voltages
- Active power, apparent power and power factor
- Phase unbalance and phase sequence
- Ground-fault current
- Time to trip
- Motor temperature
- Remaining cooling time etc.

Service data

- Motor operating hours
- Motor stop times
- Number of motor starts
- Number of overload trips
- Interval for compulsory testing of the enabling circuits
- Energy consumed
- Internal comments stored in the device etc.

Diagnostics data

- Numerous detailed early warning and fault messages
- Internal device fault logging with time stamp
- Time stamping of freely selectable status, alarm or fault messages etc.

Easy operation and diagnostics

Operator panel

The operator panel is used to control the motor feeder and can replace all conventional pushbuttons and indicator lights to save space. It makes SIMOCODE pro or the feeder directly operable in the control cabinet. It features all the status LEDs available on the basic unit and externalizes the system interface for simple parameterization or diagnosis on a PC/PG.

Operator panel with display

As an alternative to the 3UF720 standard operator panel for SIMOCODE pro V, there is also an operator panel with display: the 3UF721 is thus able in addition to indicate current measured values, operational and diagnostics data or status information of the motor feeder at the control cabinet. The pushbuttons of the operator panel can be used to control the motor. Also, when SIMOCODE pro V PROFINET is used it is possible to set parameters such as rated motor current, limit values, etc. directly via the operator panel with display.

Communications

SIMOCODE pro has either an integrated PROFIBUS DP interface (SUB-D or terminal connection) or a PROFINET interface (2 x RJ45).

Fail-safe disconnection through PROFIBUS or PROFINET with the PROFIsafe profile is also possible in conjunction with a fail-safe controller (F-CPU) and the DM-F PROFIsafe fail-safe digital module.

SIMOCODE pro for PROFIBUS

SIMOCODE pro for PROFIBUS supports for example:
- Cyclic services (DPV0) and acyclic services (DPV1)
- Extensive diagnostics and hardware interrupts
- Time stamp with high timing precision (SIMATIC S7) for SIMOCODE pro V
- DPV1 communication after the Y-Link

SIMOCODE pro for PROFINET

SIMOCODE pro for PROFINET supports for example:
- Line and ring bus topology thanks to an integrated switch
- Media redundancy via MRP protocol
- Operating, service and diagnostics data via standard web browser
- OPC UA server for open communication with visualization and control system
- NTP-synchronized time
- Interval function and measured values for power management via PROFIenergy
- Module exchange without PC memory module through proximity detection
- Extensive diagnostics and maintenance alarms

System redundancy with SIMOCODE pro for PROFINET

The device supports the system redundancy mechanisms of PROFINET IO and therefore can be operated directly on fault-tolerant systems such as SIMATIC S7-400 H. As such, SIMOCODE pro can provide decisive added value also for the field level of plants in which plant availability and control system redundancy are priorities.

Notes on safety

For connection of an internal system to an external system, suitable protective measures must be taken to ensure safe operation of the plant (including IT security, e.g. network segmentation).

More information, see www.siemens.com/industrialsecurity.

Autonomous operation

An essential feature of SIMOCODE pro is the autonomous execution of all protection and control functions, even when communication to the I&C system is interrupted. This means that even in the event of bus system or automation system failure, full functionality of the feeder is ensured or a specific behavior can be parametrized in case of such a fault, e.g. targeted shutdown of the feeder or execution of particular parametrized control mechanisms (such as reversal of the direction of rotation).

Advantages through energy efficiency
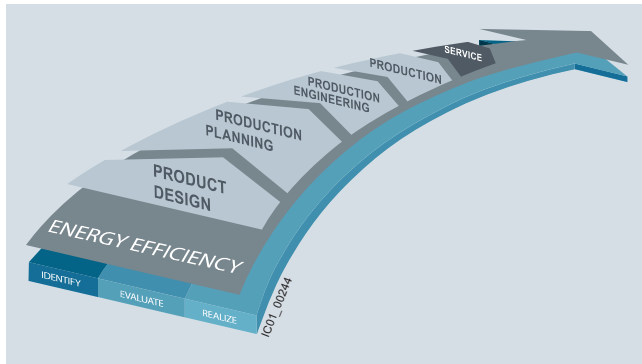
Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative SIRIUS industrial controls products can also make a major contribution to the energy efficiency of a plant (www.siemens.com/sirius/energysaving).

The SIMOCODE pro 3UF7 motor management system makes the following contribution to the energy efficiency of the plant as a whole:

- Energy consumption:
  Clear display of the energy consumption of a motor feeder or process element by means of the acquisition and transmission of all operating and consumption date, such as current, voltage, active and reactive power, energy consumption, motor temperature etc.

- Energy management:
  Evaluation of energy measured values (e.g. limit value monitoring) with exporting of local or central actions (= forwarding to higher-level)

- PROFIenergy:
  SIMOCODE pro V PROFINET supports the PROFIenergy functions. Reduced energy consumption thanks to automatic disconnection in the intervals and forwarding of the measured values for higher-level energy management systems.

Application

SIMOCODE pro is often used for automated processes where plant downtimes are very expensive (e.g. steel or cement industry) and where it is important to prevent plant downtimes through detailed operating, service and diagnostics data or to localize the fault very quickly in the event of a fault.

SIMOCODE pro is modular and space-saving and suited especially for operation in motor control centers (MCCs) in the process industry and for power plant technology.

Applications

Protection and control of motors in hazardous areas for types of protection EEx e/d according to ATEX guideline 94/9/EC

- With heavy starting (paper, cement, metal and water industries)
- In high-availability plants (chemical, oil, raw material processing industries, power plants)

Safety technology for SIMOCODE pro

The safe disconnection of motors in the process industry is becoming increasingly important as the result of new and revised standards and requirements in the safety technology field.

With the DM-F Local and DM-F PROFIsafe fail-safe expansion modules it is easy to integrate functions for fail-safe disconnection into the SIMOCODE pro V motor management system while retaining service-proven concepts. The strict separation of safety functions and operational functions proves particularly advantageous for planning, configuring and construction. Seamless integration in the motor management system leads to greater transparency for diagnostics and during operation of the system.

Suitable components for this purpose are the DM-F Local and DM-F PROFIsafe fail-safe expansion modules, depending on the requirements:

- The DM-F Local fail-safe digital module for when direct assignment between a fail-safe hardware shutdown signal and a motor feeder is required, or
- The DM-F PROFIsafe fail-safe digital module for when a fail-safe controller (F-CPU) creates the signal for the disconnection and transmits it in a fail-safe manner through PROFIBUS/PROFIsafe or PROFINET/PROFIsafe to the motor management system

10

SIMOCODE 3UF Motor Management and Control Devices
SIMOCODE pro 3UF7

General data

Technical specifications

General data

Type	3UF7	
Permissible ambient temperature		
• During operation	°C	-25 ... +60; 3UF721: 0 ... +60
• During storage and transport	°C	-40 ... +80; 3UF721: -20 ... +70
Degree of protection (acc. to IEC 60529)		
• Measurement modules with busbar connection		IP00
• Operator panel (front) and door adapter (front) with cover		IP54
• Other components		IP20
Shock resistance (sine pulse)	g/ms	15/11
Mounting position		Any
Frequency	Hz	50/60 ± 5 %
EMC interference immunity (according to IEC 60947-1)		(corresponds to degree of severity 3)
• Conducted interference, burst acc. to IEC 61000-4-4	kV	2 (power ports)
	kV	1 (signal ports)
• Conducted interference, high frequency acc. to IEC 61000-4-6	V	10
• Conducted interference, surge acc. to IEC 61000-4-5	kV	2 (line to ground); 3UF7320-1AB, 3UF7330-1AB: 1 (line to ground)
	kV	1 (line to line); 3UF7320-1AB, 3UF7330-1AB: 0.5 (line to line)
• Electrostatic discharge, ESD acc. to IEC 61000-4-2	kV	8 (air discharge); 3UF7020: Only operate front side during operation
	kV	6 (contact discharge); 3UF721: 4 (contact discharge)
• Field-related interference acc. to IEC 61000-4-3	V/m	10
EMC emitted interference (according to IEC 60947-1)		
• Conducted and radiated interference emission		EN 55011/EN 55022 (CISPR 11/CISPR 22) (corresponds to degree of severity A)
Protective separation (acc. to IEC 60947-1)		All circuits in SIMOCODE pro are safely separated from each other according to IEC 60947-1, i.e. they are designed with doubled creepage paths and clearances. In this context, compliance with the instructions in the test report "Safe Isolation" No. 2668 is required.

Basic units

Type		3UF7000-1AU00-0 3UF7010-1AU00-0 3UF7011-1AU00-0 3UF7020-1AU01-0	3UF7000-1AB00-0 3UF7010-1AB00-0 3UF7011-1AB00-0 3UF7020-1AB01-0

Control circuit

Rated control supply voltage U_s (according to IEC 61131-2)		110 ... 240 AC/DC; 50/60 Hz	24 V DC
Operating range			
• SIMOCODE pro C (3UF7000) and SIMOCODE pro V (3UF7010)		$0.85 ... 1.1 \times U_s$	$0.80 ... 1.2 \times U_s$
• SIMOCODE pro V PN (3UF7011) and SIMOCODE pro S (3UF7020)			
- Operation		$0.85 ... 1.1 \times U_s$	$0.80 ... 1.2 \times U_s$
- Start up		$0.85 ... 1.1 \times U_s$	$0.85 ... 1.2 \times U_s$
Power consumption			
• SIMOCODE pro C (3UF7000) and SIMOCODE pro S (3UF7020)		7 VA/5 W	5 W
• SIMOCODE pro V (3UF7010) incl. two connected expansion modules		10 VA/7 W	7 W
• SIMOCODE pro V PN (3UF7011) incl. two connected expansion modules		11 VA/8 W	8 W
Rated insulation voltage U_i	V	300 (at pollution degree 3)	
Rated impulse withstand voltage U_{imp}	kV	4	
Relay outputs			
• Number			
- SIMOCODE pro C, SIMOCODE pro V, SIMOCODE pro V PN		3 monostable relay outputs	
- SIMOCODE pro S		2 monostable relay outputs	
• Specified short-circuit protection for auxiliary contacts (relay outputs)			
- Fuse links		6 A operational class gG; 10 A quick-response (IEC 60947-5-1)	
- Miniature circuit breaker		1.6 A, C characteristic (IEC 60947-5-1); 6 A, C characteristic (Ik < 500 A)	
• Rated uninterrupted current	A	6	
• Rated switching capacity			
- AC-15		6 A/24 V AC 6 A/120 V AC 3 A/230 V AC	
- DC-13		2 A/24 V DC 0.55 A/60 V DC 0.25 A/125 V DC	
Inputs (binary)		4 inputs supplied internally by the device electronics (with 24 V DC) and connected to a common potential	
Thermistor motor protection (binary PTC)			
• Summation cold resistance	kΩ	≤ 1.5	
• Response value	kΩ	3.4 ... 3.8	
• Return value	kΩ	1.5 ... 1.65	

10

SIMOCODE 3UF Motor Management and Control Devices
SIMOCODE pro 3UF7

Current measuring modules or current/voltage measuring modules

Type		3UF71.0	3UF71.1	3UF71.2	3UF71.3	3UF71.4
Main circuit						
Current setting I_e	A	0.3 ... 3	2.4 ... 25	10 ... 100	20 ... 200	63 ... 630
Rated insulation voltage U_i	V	690; 3UF7103 and 3UF7104: 1 000 (at pollution degree 3)				
Rated operational voltage U_e	V	690				
Rated impulse withstand voltage U_{imp}	kV	6; 3UF7103 and 3UF7104: 8				
Rated frequency	Hz	50/60				
Type of current		Three-phase current				
Short circuit		Additional short-circuit protection is required in the main circuit				
Accuracy of current measurement (in the range of 1 x minimum current setting I_u to 8 x max. current setting I_o)	%	±3				
Typical voltage measuring range • Phase-to-phase voltage/line-to-line voltage (e.g. $U_{L1 L2}$) • Phase voltage (e.g. $U_{L1 N}$)	V V	110 ... 690 65 ... 400				
Accuracy • Voltage measurement (phase voltage U_L in the range 230 ... 400 V) • Power factor measurement (in the rated load range p.f. = 0.4...0.8) • Apparent power measurement (in the rated load range)	% % %	±3 (typical) ±5 (typical) ±5 (typical)				
Notes on voltage measurement • In insulated, high-resistance or asymmetrically grounded forms of power supply system and for single-phase systems • Supply lines for voltage measurement		In these networks the current/voltage measuring module can be used only with an upstream decoupling module on the system interface. In the supply lines from the main circuit for voltage measurement of SIMOCODE pro it may be necessary to provide additional line protection!				

Digital modules or multifunction modules

Type		3UF7300, 3UF7310, 3UF7600		
Control circuit				
Rated insulation voltage U_i	V	300 (at pollution degree 3)		
Rated impulse withstand voltage U_{imp}	kV	4		

Relay outputs
• Number
• Specified short-circuit protection for auxiliary contacts (relay outputs)
  - Fuse links
  - Miniature circuit breaker
• Rated uninterrupted current
• Rated switching capacity
  - AC-15
  - DC-13
	
	A
	
		2 monostable or bistable relay outputs (depending on the version)
		
		6 A operational class gG; 10 A quick-response (IEC 60947-5-1)
		1.6 A, C characteristic (IEC 60947-5-1); 6 A, C characteristic (Ik < 500 A)
		6
		
		6 A/24 V AC 6 A/120 V AC 3 A/230 V AC
		2 A/24 V DC 0.55 A/60 V DC 0.25 A/125 V DC		

Inputs (binary)		4 inputs, electrically isolated, supplied externally with 24 V DC or 110 ... 240 V AC/DC depending on the version, connected to a common potential		

Ground-fault modules or multifunction modules

Type		3UF7510, 3UF7600
Control circuit		
Connectable residual-current transformers		3UL23
Type of current for monitoring		Type A (AC and pulsating DC residual currents)
Adjustable response value		30 mA ... 40 A
Relative measurement error		7.5 %

Temperature modules or multifunction modules

Type		3UF7600, 3UF7700			
Sensor circuit					
Number of temperature sensors • 3UF7700 • 3UF7600		3 temperature sensors 1 temperature sensor			
Typical sensor circuits • PT100 • PT1000/KTY83/KTY84/NTC	mA mA	1 (typical) 0.2 (typical)			

Open-circuit/short-circuit detection
• Sensor type
  - Open circuit
  - Short circuit
  - Measuring range
	
	°C
		PT100/PT1000
		✓
		✓
		-50 ... +500
			KTY83-110
			✓
			✓
			-50 ... +175
				KTY84
				✓
				✓
				-40 ... +300
					NTC
					--
					✓
					80 ... 160

Measuring accuracy at 20 °C ambient temperature (T20)	K	< ±2			
Deviation due to ambient temperature (in % of measuring range)	%	0.05 per K deviation from T20			
Conversion time	ms	500			
Connection type		Two- or three-wire connection			

✓ Detection possible

-- Detection not possible

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SIMOCODE 3UF Motor Management and Control Devices
SIMOCODE pro 3UF7

General data

Analog modules		
Type		**3UF74**

Control circuit

Inputs		
• Channels		2 (passive)
• Parameterizable measuring ranges	mA	0/4 ... 20
• Shielding		Up to 30 m shield recommended, from 30 m shield required
• Max. input current (destruction limit)	mA	40
• Accuracy	%	±1
• Input resistance	Ω	50
• Conversion time	ms	150
• Resolution	bit	12
• Open-circuit detection		With measuring range 4 ... 20 mA
Outputs		
• Channels		1
• Parameterizable output range	mA	0/4 ... 20
• Shielding		Up to 30 m shield recommended, from 30 m shield required
• Max. voltage at output	V DC	30
• Accuracy	%	±1
• Max. output load	Ω	500
• Conversion time	ms	25
• Resolution	bit	12
• Short-circuit proof		Yes
Connection type		Two-wire connection
Electrical separation of inputs/output to the device electronics		No

Fail-safe digital modules					
Type		**3UF7320-1AB00-0**	**3UF7320-1AU00-0**	**3UF7330-1AB00-0**	**3UF7330-1AU00-0**

Control circuit

		3UF7320-1AB00-0	3UF7320-1AU00-0	3UF7330-1AB00-0	3UF7330-1AU00-0
Rated control supply voltage U_s	V	24 DC	110 ... 240 AC/DC; 50/60 Hz	24 DC	110 ... 240 AC/DC; 50/60 Hz
Power consumption		3 W	9.5 VA/4.5 W	4 W	11 VA/5.5 W
Rated insulation voltage	V	300			
Rated impulse withstand voltage U_{imp}	kV	4			
Relay outputs • Number		2 relay enabling circuits, 2 relay outputs			
Version of the fuse link For short-circuit protection of the relay enabling circuit	A	4, operational class gG			
Rated uninterrupted current	A	5			
Rated switching capacity • AC-15 • DC-13		3 A/24 V AC 4 A/24 V DC	3 A/120 V AC 0.55 A/60 V DC	1.5 A/230 V AC 0.22 A/125 V DC	
Inputs (binary)		5 (with internal power supply from the device electronics)			
Cable length • Between sensor/start signal and evaluation electronics • For further digital signals	m m	1 500 300			

Safety data[1]

		3UF7320-1AB00-0	3UF7320-1AU00-0	3UF7330-1AB00-0	3UF7330-1AU00-0
SIL level max. according to IEC 61508		3			
Performance level PL according to EN ISO 13849-1		e			
Category according to EN ISO 13849-1		4			
Stop category according to EN 60204-1		0			
Probability of a dangerous failure (at 40 °C) for SIL 3 applications • Per hour (PFH_d) at a high demand rate according to IEC 62061 • On demand (PFD_{avg}) at a low demand rate according to IEC 61508	1/h	4.5×10^{-9} 5.4×10^{-6}	4.6×10^{-9} 5.5×10^{-6}	4.4×10^{-9} 5.1×10^{-6}	4.4×10^{-9} 5.2×10^{-6}
T1 value for proof-test interval or service life according to IEC 61508	a	20			

[1] More safety data, see system manual "SIMOCODE pro Safety Fail-Safe Digital Modules", http://support.automation.siemens.com/WW/view/en/50564852.

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■ More information

Configuration instructions when using an operator panel with display and/or a decoupling module with SIMOCODE pro V with PROFIBUS

If you want to use an operator panel with display and/or a decoupling module in the SIMOCODE pro V system with PROFIBUS, then the following configuration instructions concerning the type and number of connectable expansion modules must be observed.

The following tables show the maximum possible configuration of the expansion modules for the various combinations.

The DM-F Local and DM-F PROFIsafe fail-safe expansion modules behave in this connection like digital modules for standard applications.

Use of an operator panel with display

Digital module 1	Digital module 2	Analog module	Temperature module	Ground-fault module
Only operator panel with display for SIMOCODE pro V (24 V DC or 110 ... 240 V AC/DC)				
Max. 4 expansion modules can be used				
Operator panel with display and current/voltage measurement with SIMOCODE pro V (110 ... 240 V AC/DC)				
Max. 3 expansion modules can be used or:				
--	--	✓	✓	--

✓ Available

-- Not available

Use of a decoupling module
(voltage measurement in insulated networks)

Digital module 1	Digital module 2	Analog module	Temperature module	Ground-fault module
SIMOCODE pro V (24 V DC)				
✓[1]	✓[1]	✓	✓	✓
SIMOCODE pro V (110 ... 240 V AC/DC)				
✓	✓	--	✓	✓
✓[1]	✓[1]	✓	✓	--
✓	--	✓	✓	--
✓	--	✓	--	✓

✓ Available

-- Not available

[1] No bistable relay outputs and no more than 5 of 7 relay outputs active simultaneously (> 3 s).

Use of a decoupling module
(voltage measurement in insulated networks)
in combination with an operator panel with display

Digital module 1	Digital module 2	Analog module	Temperature module	Ground-fault module
SIMOCODE pro V (24 V DC)				
✓	--	✓	✓	✓
✓	✓	--	✓	✓
SIMOCODE pro V (110 ... 240 V AC/DC)				
✓[1]	--	✓	✓	✓
✓	✓	--	--	--
✓[2]	✓[2]	✓[3]	--	--
✓	--	--	✓	✓

✓ Available

-- Not available

[1] No bistable relay outputs and no more than 3 of 5 relay outputs active simultaneously (> 3 s).

[2] No bistable relay outputs and no more than 5 of 7 relay outputs active simultaneously (> 3 s).

[3] Analog module output is not used.

Protective separation

All circuits in SIMOCODE pro are safely isolated from each other in accordance with IEC 60947-1. That is, they are designed with double creepages and clearances. In the event of a fault, therefore, no parasitic voltages can be formed in neighboring circuits. The instructions of Test log No. 2668 must be complied with.

Types of protection EEx e and EEx d

The overload protection and the thermistor motor protection of the SIMOCODE pro system comply with the requirements for overload protection of explosion-proof motors to the type of protection:

- EEx d "flameproof enclosure" e.g. according to IEC 60079-1
- EEx e "increased safety" e.g. according to IEC 60079-7

When using SIMOCODE pro devices with a 24 V DC control voltage, electrical separation must be ensured using a battery or a safety transformer according to IEC 61558-2-6.
EC type test certificate: BVS 06 ATEX F 001
Test log: BVS PP 05.2029 EG.

Selection data for type-tested assemblies/load feeders

For configuration tables according to type of coordination "1" or "2", see

- Manual "Configuring SIRIUS", Article No.: 3ZX1012-0RA21-0AC0, http://support.automation.siemens.com/WW/view/en/40625241
- Manual "Configuring SIRIUS Innovations", Article No.: 3ZX1012-0RA21-1AC0, http://support.automation.siemens.com/WW/view/en/39714188
- SIMOCODE pro PROFIBUS System Manual, Article No.: 3UF7970-0AA00-0, http://support.automation.siemens.com/WW/view/en/20017780
- SIMOCODE pro PROFINET System Manual, Article No.: 3ZX1012-0UF70-1AC1, http://support.automation.siemens.com/WW/view/en/61896631

System manual

The SIMOCODE pro system manual describes the motor management system and its functions in detail. It provides information on configuration, start up, servicing and maintenance. A typical example of a reversing starter application is used to teach the user quickly and practically how to use the system. In addition to help on how to identify and rectify faults in the event of a malfunction, the manual also contains special information for servicing and maintenance. For selection of equipment and for configuration, it is recommended to consult the system manual.

A detailed description of the DM-F Local and DM-F PROFIsafe fail-safe expansion modules is provided in the system manual "SIMOCODE pro Safety Fail-Safe Digital Modules", which can be downloaded from the Internet.

Internet

More information, see www.siemens.com/simocode.

10

SIMOCODE 3UF Motor Management and Control Devices
SIMOCODE pro 3UF7

Basic units

Selection and ordering data

Version	DT	Screw terminals ⊕		PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			
SIMOCODE pro						
SIMOCODE pro C PROFIBUS DP interface, 12 Mbit/s, RS 485 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs Rated control supply voltage U_S:						
• 24 V DC	▶	3UF7000-1AB00-0		1	1 unit	42J
• 110 ... 240 V AC/DC	▶	3UF7000-1AU00-0		1	1 unit	42J
3UF7000-1A.00-0						
SIMOCODE pro S[1] PROFIBUS DP interface, 1.5 Mbit/s, RS 485 4 I/2 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by a multifunction module Rated control supply voltage U_S:						
• 24 V DC	NEW ▶	3UF7020-1AB01-0		1	1 unit	42J
• 110 ... 240 V AC/DC	NEW ▶	3UF7020-1AU01-0		1	1 unit	42J
3UF7020-1A.01-0						
SIMOCODE pro V PROFIBUS DP interface, 12 Mbit/s, RS 485 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules Rated control supply voltage U_S:						
• 24 V DC	▶	3UF7010-1AB00-0		1	1 unit	42J
• 110 ... 240 V AC/DC	▶	3UF7010-1AU00-0		1	1 unit	42J
3UF7010-1A.00-0						
SIMOCODE pro V PROFINET[2] ETHERNET/PROFINET IO, OPC UA server and web server, 100 Mbit/s, 2 x connection to bus through RJ45, PROFINET system redundancy, media redundancy protocol, 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules, web server in German/English/Chinese/Russian, Rated control supply voltage U_S:						
• 24 V DC	NEW ▶	3UF7011-1AB00-0		1	1 unit	42J
• 110 ... 240 V AC/DC	NEW ▶	3UF7011-1AU00-0		1	1 unit	42J
3UF7011-1A.00-0						

[1] The connection cable to the current measuring module must be at least 30 cm.

[2] When using an operator panel with display, the product version must be E07 or higher (from 08/2012).