

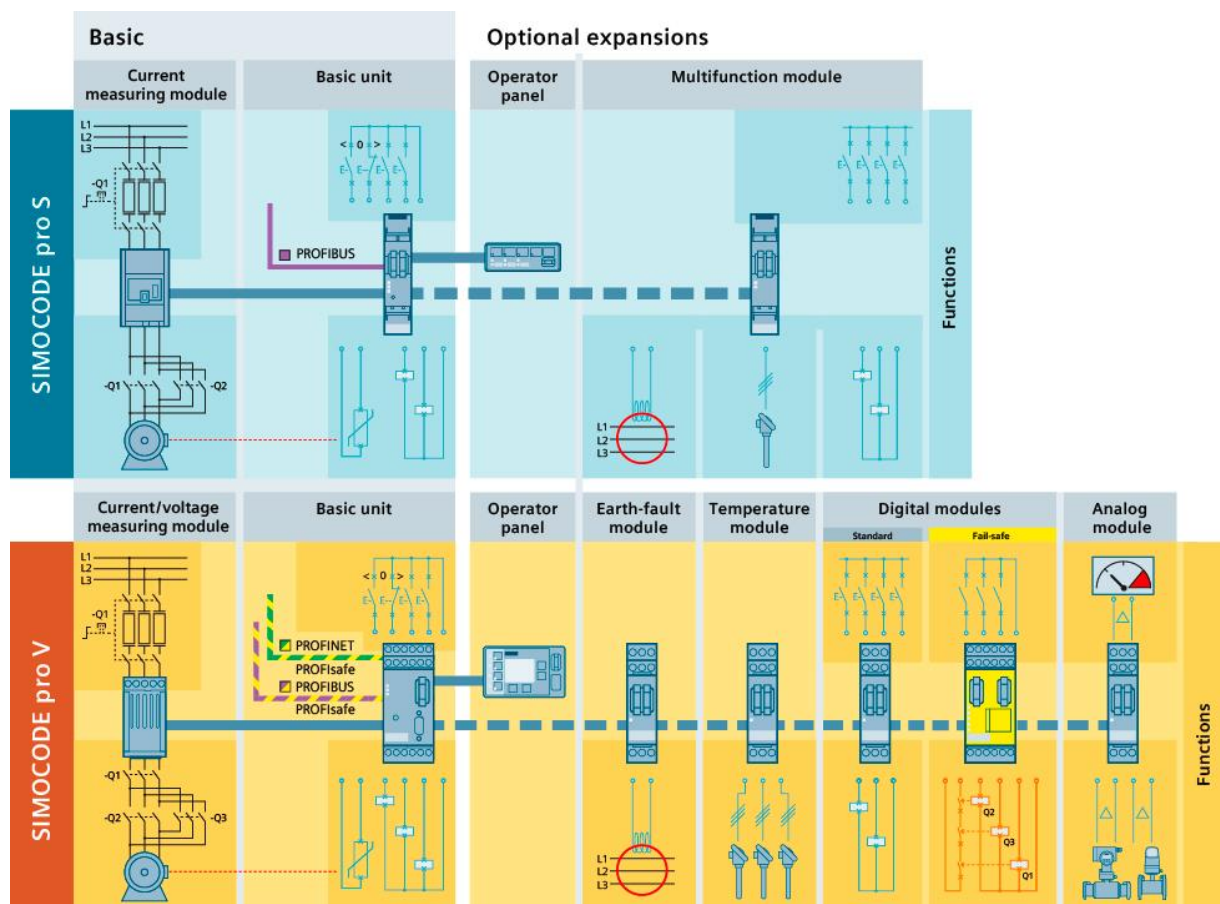
SIMOCODE pro: The motor management system for increased transparency – and improved process quality

Protection Functions of SIMOCODE pro according ANSI Systematic

For more than 25 years, SIMOCODE pro has been ensuring the optimum operation of constant-speed motors in the low voltage range in countless plants around the globe. The flexible, efficient and modular motor management system combines all necessary protection, monitoring, safety and control functions for every motor feeder in a single compact enclosure. It can be easily connected to the automation system via PROFIBUS or PROFINET.

Comprehensive motor feeder features	
• Multifunctional, electronic full motor protection, independent of the automation system	
• Safe motor disconnection	
• Integrated control functions	
• Detailed operating, service and diagnostics data	
• Open communication via PROFIBUS or PROFINET	

Two functionally graded device ranges: SIMOCODE pro S and SIMOCODE pro V.



Protection Functions of SIMOCODE pro according ANSI Systematic

Device Number	ANSI Protection Function	SIMOCODE category	SIMOCODE nomenclature	pro S	pro V
46	Phase Balance Current Relay	Motor Protection	Unbalance Protection	●	●
49	Machine or Transformer Thermal Relay	Motor Protection	Overload Protection	●	●
49	Machine or Transformer Thermal Relay	Motor Protection	Thermistor Protection	●	●
51	A-C Time Overcurrent Relay	Motor Protection	Stalled Rotor	●	●
27	Undervoltage Relay	Monitoring Functions	Voltage		●
32P	Directional Power Relay	Monitoring Functions	Active Power (upper limit)		●
37	Undercurrent or Underpower Relay	Monitoring Functions	Current Limits (lower limit)	●	●
37	Undercurrent or Underpower Relay	Monitoring Functions	Active Power (lower limit)		●
38	Bearing Protective Device	Monitoring Functions	Temperature	●	●
26	Apparatus Thermal Device				
47	Phase-Sequence Voltage Relay	Monitoring Functions	Voltage Phase Sequence		●
50	Instantaneous Overcurrent Relay	Monitoring Functions	Current Limits (upper limit)	●	●
50G	Ground Instantaneous Overcurrent	Monitoring Functions	Earth-fault	●	●
51	A-C Time Overcurrent Relay	Monitoring Functions	Current Limits (upper limit)	●	●
55	Power Factor Relay	Monitoring Functions	Cos-Phi		●
59	Overvoltage Relay	Monitoring Functions	Limit Monitor – Voltage Input		●
64	Ground Protective Relay	Monitoring Functions	Earth-fault	●	●
66	Notching or Jogging Device	Monitoring Functions	Operating Hours Monitoring	●	●
2	Time Delay Starting or Closing Relay	Logic Modules	Timer	●	●
62	Time-Delay Stopping or Opening Relay				

Further Control, Logic and Standard Functions of SIMOCODE pro

	Functions without ANSI equivalent:				
	Management of control modes (remote/local)	Control Functions	Control Station	●	●
	Motor control functions	Control Functions	Extended Control	●	●
	Fail-safe disconnection	Standard Functions	Safety-oriented Tripping		●
	Auto-restart after power failure	Standard Functions	Under Voltage Off (UVO)	●	●
	Function testing without main power	Standard Functions	Test Position Feedback (TPF)	●	●
	Enabling a start during active cooling down period	Standard Functions	Emergency Start	●	●
	Bus communication and PLC monitoring	Standard Functions	Watchdog	●	●
	Counter	Logic Modules	Counters	●	●
	Truth tables	Logic Modules	Truth Tables	●	●
	Limit monitors	Logic Modules	Limit Monitors	●	●
	Customer specific calculations	Logic Modules	Calculation Modules	●	●
	Analog signal monitoring	Monitoring Functions	0/4 – 20 mA Analog Signal		●

The mentioned functions of SIMOCODE pro are only a sub-set of the most relevant functions. For further information about the SIMOCODE pro functions please refer to the SIMOCODE pro System Manual. All relevant information can be found under www.siemens.com/simocode!

Reference: Supported ANSI device numbers:

Motor / Load Protection Functions:

27) Undervoltage Relay is a relay that functions on a given value of under-voltage.

38) Bearing Protective Device is a device that functions on excessive bearing temperature, or on another abnormal mechanical conditions associated with the bearing, such as undue wear, which may eventually result in excessive bearing temperature.

46) Reverse Phase or Phase Balance Current Relay is a relay that functions when the polyphase currents are of reverse-phase sequence, or when the polyphase currents are unbalanced or contain negative phase-sequence components above a given amount.

47) Phase-Sequence Voltage Relay is a relay that function upon a predetermined value of polyphase voltage in the desired phase sequence.

49) Machine or Transformer Thermal Relay is a relay that functions when the temperature of a machine armature or other load-carrying winding or element of a machine or the temperature of a power rectifier or power transformer (including a power rectifier transformer) exceeds a predetermined value.

50) Instantaneous Overcurrent or Rate -of-Rise Relay is a relay that functions instantaneously on an excessive value of current or on an excessive rate of current rise, thus indicating a fault in the apparatus or circuit being protected.

50G) Ground Instantaneous Overcurrent Relay

51) A-C Time Overcurrent Relay is a relay with either a definite or inverse time characteristic that functions when the current in an a-c circuit exceed a predetermined value.

55) Power Factor Relay is a relay that operates when the power factor in an a-c circuit rises above or falls below a predetermined value.

59) Overvoltage Relay is a relay that functions on a given value of over-voltage.

64) Ground Protective Relay is a relay that functions on failure of the insulation of a machine, transformer, or of other apparatus to ground, or on flashover of a d-c machine to ground.

Machine Protection Functions:

32) Directional Power Relay is a device that functions on a desired value of power flow in a given direction or upon reverse power resulting from arcbreak in the anode or cathode circuits of a power rectifier.

37) Undercurrent or Underpower Relay is a relay that function when the current or power flow decreases below a predetermined value.

Motor / Load Control Functions:

2) Time Delay Starting or Closing Relay is a device that functions to give a desired amount of time delay before or after any point of operation in switching sequence or protective relay system, except as specifically provided by service function 48, 62, and 79.

26) Apparatus Thermal Device is a device that functions when the temperature of the shunt field or the amortisseur winding of a machine, or that of a load limiting or load shifting resistor or of a liquid or other medium, exceeds a predetermined value: or if the temperature of the protected apparatus, such as a power rectifier, or of any medium decrease below a predetermined value.

62) Time-Delay Stopping or Opening Relay is a time-delay relay that serves in conjunction with the device that initiates the shutdown, stopping, or opening operation in an automatic sequence or protective relay system.

66) Notching or Jogging Device is a device that functions to allow only a specified number of operations of a given device or equipment, or a specified number of successive operations within a given time of each other. It is also a device that functions to energize a circuit periodically or for fractions of specified time intervals, or that is used to permit intermittent acceleration or jogging of a machine at low speeds for mechanical positioning.