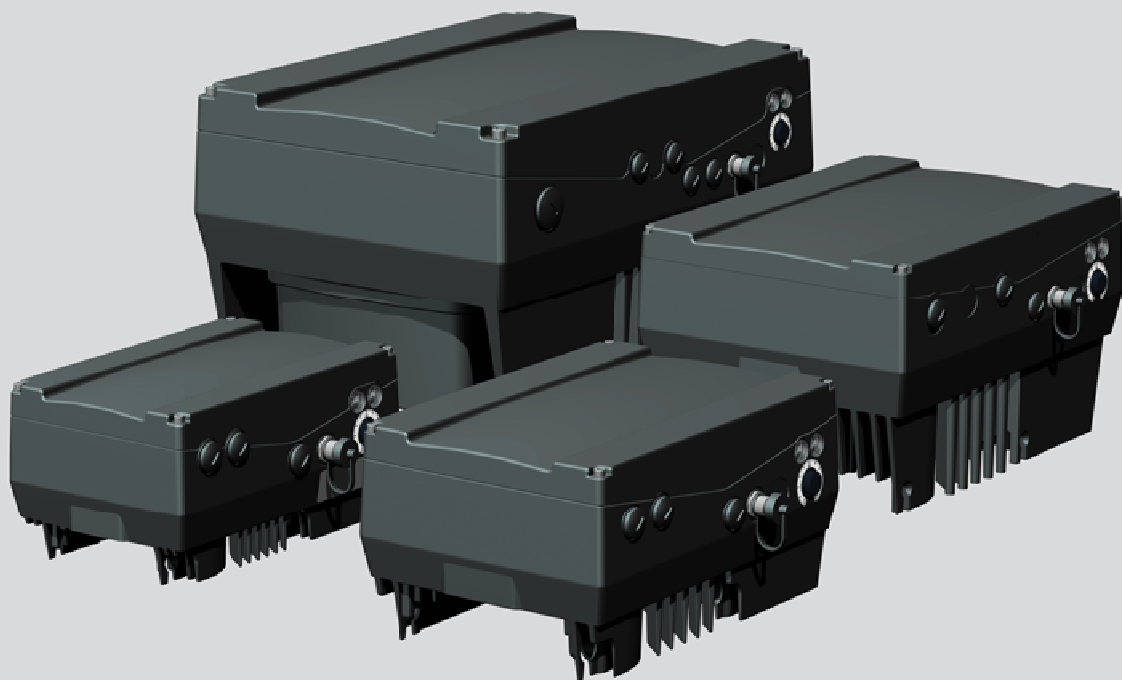


Parameter List

2FC4...-1ST | 2FC4...-1PB | 2FC4...-1PN |
2FC4...-1SC | 2FC4...-1CB



G-Serie
G-Series

Seitenkanal
Side Channel



C-Serie
C-Series

Klaue
Claw



Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
1.020	Minimum frequency	0 - 400 [Hz]		<p>The minimum frequency is the frequency that is supplied by the drive controller as soon as it is released and no additional setpoint is pending.</p> <p>This frequency is not reached if:</p> <ul style="list-style-type: none"> a) it is accelerated from the stationary drive. b) the FI is locked. The frequency is then reduced to 0 Hz before it is locked. c) the FI reverses (1.150). Reversing the field of rotation occurs at 0 Hz. d) the standby function (3.070) is active. 	Type-specific	Always
1.021	Maximum frequency	5 - 400 [Hz]		The maximum frequency is the highest frequency issued by the drive controller as a function of the setpoint.	See rating plate	Always
1.050	Braking time 1	0.1 - 1000 [s]		<p>The braking time 1 is the time it takes for the drive controller to decelerate from the max. frequency (1.021) to 0 Hz.</p> <p>If the set braking time cannot be met, the fastest possible braking time is implemented.</p>	Type-specific	Always
1.051	Power-up time 1	0.1 - 1000 [s]		<p>The power-up time 1 is the time it takes the drive controller to accelerate from 0 Hz to the max. frequency.</p> <p>The power-up time can be extended under certain circumstances, e.g. overload of the drive controller.</p>	Type-specific	Always
1.052	Braking time 2	0 - 1000 [s]		<p>The braking time 2 is the time it takes for the drive controller to decelerate from the max. frequency (1.021) to 0 Hz.</p> <p>If the set braking time cannot be met, the fastest possible braking time is implemented.</p>	10	Always
1.053	Power-up time 2	0 - 1000 [s]		<p>The power-up time 2 is the time it takes the drive controller to accelerate from 0 Hz to the max. frequency.</p> <p>The power-up time can be extended under certain circumstances, e.g. overload of the drive controller.</p>	10	Always
1.054	Ramp selection	0 - 9	Selection of the used pair of ramps.		0	Always
			0	Braking time 1 (1.050)/Power-up time 1 (1.051)		
			1	Braking time 2 (1.052)/Power-up time 2 (1.053)		
			2	Digital input 1 (False = pair of ramps 1/True = pair of ramps 2)		
			3	Digital input 2 (False = pair of ramps 1/True = pair of ramps 2)		
			4	Digital input 3 (False = pair of ramps 1/True = pair of ramps 2)		
			5	Digital input 4 (False = pair of ramps 1/True = pair of ramps 2)		
			6	Customer-spec. PLC		
7	Analogue input 1					

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			8	Analogue input 2		
			9	Virtual output 1		
1.100	Operating mode	0 - 3	Following the software- and hardware release, (1.131) applies.		0	Always
			0	Frequency setting mode, with the setpoint of the selected setpoint source (1.130)		
			1	PID process controller, with the setpoint of the PID process controller (3.050 – 3.071)		
			2	Fixed frequencies with the frequencies specified in the parameters 2.051 – 2.057		
			3	Selection of customer-spec. PLC		
1.130	Setpoint source	0 - 10	Specifies the source from which the setpoint should be read.		1	Always
			0	Internal potentiometer		
			1	Analogue input 1		
			2	Analogue input 2		
			3	MMI/PC		
			4	SAS		
			6	Motor potentiometer (MOP)		
			7	Total of analogue inputs 1 and 2		
			8	PID fixed setpoints (3.062 bis 3.069)		
			9	Field bus		
			10	Customer-spec. PLC		
1.131	Software release	0 - 15	⚠ WARNING! After the change made, the motor may start to run directly!		0	Always
			0	Digital input 1		
			1	Digital input 2		
			2	Digital input 3		
			3	Digital input 4		
			4	Analogue input 1 (must be selected in parameter 4.030)		
			5	Analogue input 2 (must be selected in parameter 4.050)		
			6	Field bus		
			7	SAS		
			8	Digital input 1 right/digital input 2 left 1.150 must be set to „0“		
			9	Auto start		
			10	Customer-spec. PLC		
			11	Fixed frequency inputs (all inputs that have been selected in parameter 2.050)		
			12	Internal potentiometer		
			13	Membrane keyboard		
			14	MMI/PC		
			15	Virtual output 1		
1.132	Start-up	0 - 8	Selection of characteristics on the control release (pa-		0	Always

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
	protection			parameter 1.131). No effect if auto start was selected.		
			0	Immediate start at a high signal at the start input of control release		
			1	Start only with increasing slope at the start input of control release		
			2	Digital input 1 (function active at High Signal)		
			3	Digital input 2 (function active at High Signal)		
			4	Digital input 3 (function active at High Signal)		
			5	Digital input 4 (function active at High Signal)		
			6	Customer-spec. PLC		
			7	Analogue input 1		
			8	Analogue input 2		
1.150	Direction of rotation	0 - 13		Selection of the specified direction of rotation.	1	Always
			0	Depending on the prefix of the setpoint: > 0 = forward; < 0 = reverse		
			1	Forward only (change in the direction of rotation not possible)		
			2	Reverse only (change in the direction of rotation not possible)		
			3	Digital input 1 (0 V = Forward, 24 V = Reverse)		
			4	Digital input 2 (0 V = Forward, 24 V = Reverse)		
			5	Digital input 3 (0 V = Forward, 24 V = Reverse)		
			6	Digital input 4 (0 V = Forward, 24 V = Reverse)		
			7	Customer-spec. PLC		
			8	Analogue input 1		
			9	Analogue input 2		
			10	Membrane keyboard key for direction of rotation		
			11	Membrane keyboard key 1 right/2 left (always)		
			12	Membrane keyboard key 1 right/2 left (via stop)		
			13	Virtual output 1		
1.180	Acknowledgement function	0 - 7		Selects the source for the error acknowledgement. Automatic acknowledgement (see 1.181). Errors can only be acknowledged when the error is no longer present. Certain errors can only be acknowledged by switching the controller on and off, see list of errors in the operating manual.	3	Always
			0	No manual acknowledgement possible		
			1	Increasing slope at digital input 1		
			2	Increasing slope at digital input 2		
			3	Increasing slope at digital input 3		
			4	Increasing slope at digital input 4		
			5	Membrane keyboard		
			6	Analogue input 1		
			7	Analogue input 2		

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
1.181	Automatic acknowledgement	0 - 1000 [s]		Besides the acknowledgement function (1.180), automatic error acknowledgement can also be selected. 0 = no automatic acknowledgement > 0 = time for the automatic reset of the error in seconds	0	Always
1.182	Auto acknowledgement display	0 - 500		In addition to the automatic acknowledgement function (1.181), the maximum number of automatic acknowledgements can be limited here. 0 = no limit for the automatic acknowledgements > 0 = number of maximum automatic acknowledgements allowed	5	Always
2.050	Fixed frequency mode	0 - 3		Selection of the digital inputs used for the fixed frequencies.	1	Always
			0	Digital In 1 (fixed frequency) (2.051)		
			1	Digital In 1, 2 (fixed frequencies 1 - 3) (2.051 to 2.053)		
			2	Digital In 1, 2, 3 (fixed frequencies 1 - 7) (2.051 to 2.057)		
3	Membrane keyboard key 1 = frequency 1/key 2 = frequency 2					
2.051	Fixed frequency 1	-400 - 400 [Hz]		The fixed frequency 1 that should be output at the digital inputs 1 - 3 set in parameter 2.050, depending on the switching pattern. See chapter 5.2.1, fixed frequency, Explanation of operating modes.	34	Always
2.052	Fixed frequency 2	-400 - 400 [Hz]		The fixed frequency 2 that should be output at the digital inputs 1 - 3 set in parameter 2.050, depending on the switching pattern. See chapter 5.2.1, fixed frequency, Explanation of operating modes.	67	Always
2.053	Fixed frequency 3	-400 - 400 [Hz]		The fixed frequency 3 that should be output at the digital inputs 1 - 3 set in parameter 2.050, depending on the switching pattern. See chapter 5.2.1, fixed frequency, Explanation of operating modes.	50	Always
2.054	Fixed frequency 4	-400 - 400 [Hz]		The fixed frequency 4 that should be output at the digital inputs 1 - 3 set in parameter 2.050, depending on the switching pattern. See chapter 5.2.1, fixed frequency, Explanation of operating modes.	0	Always
2.055	Fixed frequency 5	-400 - 400 [Hz]		The fixed frequency 5 that should be output at the digital inputs 1 - 3 set in parameter 2.050, depending on the switching pattern. See chapter 5.2.1, fixed frequency, Explanation of operating modes.	0	Always
2.056	Fixed frequency 6	-400 - 400 [Hz]		The fixed frequency 6 that should be output at the digital inputs 1 - 3 set in parameter 2.050, depending on the switching pattern. See chapter 5.2.1, fixed frequency, Explanation of operating modes.	0	Always
2.057	Fixed	-400 -		The fixed frequency 7 that should be output at	0	Always

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
	frequency 7	400 [Hz]		the digital inputs 1 - 3 set in parameter 2.050, depending on the switching pattern. See chapter 5.2.1, fixed frequency, Explanation of operating modes.		
2.150	MOP DI selection	0 - 8		Selection source to increase/decrease the setpoint (motor potentiometer).	0	Always
			0	Digital input 1 +/digital input 2 -		
			1	Digital input 1 +/digital input 3 -		
			2	Digital input 1 +/digital input 4 -		
			3	Digital input 2 +/digital input 3 -		
			4	Digital input 2 +/digital input 4 -		
			5	Digital input 3 +/digital input 4 -		
			6	Analogue input 1 +/analogue input 2 - (selection in parameter 4.030/4.050)		
			7	Customer-spec. PLC		
8	membrane keypad key 1-/key 2 +					
2.151	MOP increment	0 - 100 [%]		Increment at which the setpoint value is to be changed per keystroke.	1	Always
2.152	MOP increment time	0.02 - 1000 [s]		Specifies the time in which the setpoint is summed up with permanently present signal.	0.04	Always
2.153	MOP response time	0.02 - 1000 [s]		Specifies the time until the present signal is considered to be permanent.	0.3	Always
2.154	MOP retentive	0 - 1		Determines whether the setpoint of the motor potentiometer is retained even after power failure.	0	Always
			0	deactivated		
			1	activated		
3.050	PID P gain	0 - 100		Gain factor proportional component of the PID controller.	0.25	Always
3.051	PID I gain	0 - 100 [1/s]		Gain factor integral component of the PID controller.	0.25	Always
3.052	PID D gain	0 - 100 [s]		Gain factor differential component of the PID controller.	0	Always
3.060	PID actual value	0 - 2		Input source, from which the actual value for the PID process controller is read.	1	Always
			0	Analogue input 1		
			1	Analogue input 2		
			2	Customer-spec. PLC		
3.061	PID inverse	0 - 1		The actual value source (parameter 3.060) is inverted.	0	Always
			0	deactivated		
			1	activated		
3.062	PID fixed setpoint 1	0 - 100 [%]		PID fixed setpoint value 1 that should be output at the digital inputs 1 - 3 set in parameter 3.069, depending on the switching pattern (must be selected in parameter 1.130).	0	Always

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
3.063	PID fixed setpoint 2	0 - 100 [%]		PID fixed setpoint value 2 that should be output at the digital inputs 1 – 3 set in parameter 3.069, depending on the switching pattern (must be selected in parameter 1.130).	0	Always
3.064	PID fixed setpoint 3	0 - 100 [%]		PID fixed setpoint value 3 that should be output at the digital inputs 1 – 3 set in parameter 3.069, depending on the switching pattern (must be selected in parameter 1.130).	0	Always
3.065	PID fixed setpoint 4	0 - 100 [%]		PID fixed setpoint value 4 that should be output at the digital inputs 1 – 3 set in parameter 3.069, depending on the switching pattern (must be selected in parameter 1.130).	0	Always
3.066	PID fixed setpoint 5	0 - 100 [%]		PID fixed setpoint value 5 that should be output at the digital inputs 1 – 3 set in parameter 3.069, depending on the switching pattern (must be selected in parameter 1.130).	0	Always
3.067	PID fixed setpoint 6	0 - 100 [%]		PID fixed setpoint value 6 that should be output at the digital inputs 1 – 3 set in parameter 3.069, depending on the switching pattern (must be selected in parameter 1.130).	0	Always
3.068	PID fixed setpoint 7	0 - 100 [%]		PID fixed setpoint value 7 that should be output at the digital inputs 1 – 3 set in parameter 3.069, depending on the switching pattern (must be selected in parameter 1.130).	0	Always
3.069	Fixed PID setpoint mode	0 - 2		Selection of the digital inputs used for the fixed frequencies.	0	Always
			0	Digital In 1 (PID fixed frequency 1) (3.062)		
			1	Digital In 1, 2 (PID fixed frequencies 1 - 3) (3.062 to 3.064)		
			2	Digital In 1, 2, 3 (PID fixed frequencies 1 - 7) (3.062 to 3.068)		
3.070	PID standby time	0 - 1000 [s]		If the drive controller runs the set time at its minimum frequency (parameter 1.020), the motor is stopped (0 Hz), see also chapter 5.2.1 PID process control. 0 = deactivated >0 = wait time until the activation of the standby function	0	Always
3.071	PID standby hyst.	0 - 50 [%]		Wake-up condition of the PID controller from the standby function. If the control deviation is greater than the set value in %, the control restarts, see also operating modes of PID controller.	0	Always
3.072	PID dry. Time	0-32767 [s]		Monitoring of the actual value of the initial value 0 % to an increase of 5% referred to the set time	0	Always
3.073	PID setpoint min	0 - 100 [%]		Indication of the min PID setpoint referred to the PID actual value (end-point specification)	0	Always
3.074	PID setpoint max	0 - 100 [%]		Indication of the max PID setpoint referred to the PID actual value (end-point specification)	100	Always

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
4.020	AI1 input type	1 - 2	Type of analogue input 1.		1	Always
			1	Voltage input		
			2	Current input		
4.021	AI1 standard. Low	0 - 100 [%]		Specifies the minimum value of the analogue input 1 as a percentage of the final range value. Example: 0...10 V resp. 0...20 mA = 0 %...100 % 2...10 V resp. 4...20 mA = 20 %...100 %	0	Always
4.022	AI1 standard. High	0 - 100 [%]		Specifies the maximum value of the analogue input 1 as a percentage of the final range value. Example: 0...10 V resp. 0...20 mA = 0 %...100 % 2...10 V resp. 4...20 mA = 20 %...100 %	98	Always
4.023	AI1 backlash	0 - 100 [%]		Backlash as percentage of final range value of the analogue inputs.	0	Always
4.024	AI1 filtering time	0.02 - 1 [s]		Filtering time of the analogue inputs in seconds.	0.02	Always
4.030	AI1 function	0 - 1	Function of the analogue input 1.		0	Always
			0	Analogue input		
			1	Digital input		
4.033	AI1 phys unit	0 - 10	Selection of the different physical variables to be displayed.		0	Always
			0	%		
			1	bar		
			2	mbar		
			3	psi		
			4	Pa		
			5	m3/h		
			6	l/min		
			7	°C		
			8	°F		
			9	m		
10	mm					
4.034	AI1 phys min	-10000 - 10000		Selection of the lower limit of a physical quantity to be displayed.	0	Always
4.035	AI1 phys max	-10000 - 10000		Selection of the upper limit of a physical quantity to be displayed.	100	Always
4.036	AI1 time wire breakage	0 - 32767 [s]		Monitoring the analogue input 1 for wire breakage after set time.	0.5	Always
4.050	AI2 input type	1 - 2	Type of analogue input 2.		2	Always
			1	Voltage input		
			2	Current input		
4.051	AI2	0 - 100		Specifies the minimum value of the analogue	0	Always

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
	standard. Low	[%]		inputs as a percentage of the final range value. Example: 0...10 V resp. 0...20 mA = 0 %...100 % 2...10 V resp. 4...20 mA = 20 %...100 %		
4.052	AI2 standard. High	0 - 100 [%]		Specifies the maximum value of the analogue inputs as a percentage of the final range value. Example: 0...10 V resp. 0...20 mA = 0 %...100 % 2...10 V resp. 4...20 mA = 20 %...100 %	98	Always
4.053	AI2 backlash	0 - 100 [%]		Backlash as percentage of final range value of the analogue inputs.	0	Always
4.054	AI2 filtering time	0.02 - 1 [s]		Filtering time of the analogue inputs in seconds.	0.02	Always
4.060	AI2 function	0 - 1	Function of the analogue input 2.		0	Always
			0	Analogue input		
			1	Digital input		
4.063	AI2 phys unit	0 - 10	Selection of the different physical variables to be displayed.		0	Always
			0	%		
			1	bar		
			2	mbar		
			3	psi		
			4	Pa		
			5	m ³ /h		
			6	l/min		
			7	°C		
			8	°F		
			9	m		
10	mm					
4.064	AI2 phys min	-10000 - 10000		Selection of the lower limit of a physical quantity to be displayed.	0	Always
4.065	AI2 phys max	-10000 - 10000		Selection of the upper limit of a physical quantity to be displayed.	100	Always
4.066	AI2 time wire breakage	0 - 32767 [s]		Monitoring the analogue input 2 for wire breakage after set time.	0.5	Always
4.100	AO1 function	4.100	Selection of the process value that is output at the analogue output. Depending on the process value selected, the standard (4.101/4.102) must be adapted.		5	Always
			0	not assigned/customer-spec. PLC		
			1	Intermediate circuit voltage		
			2	Mains voltage		
			3	Motor voltage		

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			4	Motor current		
			5	Actual frequency		
			6	speed measured externally by speed sensor (if available)		
			7	current angle or position (if available)		
			8	IGBT temperature		
			9	Internal temperature		
			10	Analogue input 1		
			11	Analogue input 2		
			12	Nominal frequency		
			13	Motor power		
			14	Torque		
			15	Field bus		
			16	PID setpoint		
			17	PID actual value		
			18	Frequency setpoint after ramp		
			19	Actual torque value		
			20	Actual frequency value magnitude		
			21	Torque magnitude		
			22	Frequency setpoint after ramp magnitude		
			23	Frequency setpoint magnitude		
			24	Actual torque value magnitude		
4.101	AO1 standard Low	-32767 - 32767		Describes the range to be resolved to the output voltage 0 - 10 V or output current 0 - 20 mA.	0	Always
4.102	AO1 standard high	-32767 - 32767		Describes the range to be resolved to the output voltage 0 - 10 V or output current 0 - 20 mA.	Type-specific	Always
4.110	DI1 inverse	0 - 1		Using this parameter, the digital input 1 can be inverted.	0	Always
			0	Inactive		
			1	Active		
4.111	DI2 inverse	0 - 1		Using this parameter, the digital input 2 can be inverted.	0	Always
			0	Inactive		
			1	Active		
4.112	DI3 inverse	0 - 1		Using this parameter, the digital input 3 can be inverted.	0	Always
			0	Inactive		
			1	Active		
4.113	DI4 inverse	0 - 1		Using this parameter, the digital input 4 can be inverted.	0	Always
			0	Inactive		
			1	Active		
4.150	DO1	0 - 51		Selection of the process variable to which the output	18	Always

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
	function			should switch.		
			0	not assigned/customer-spec. PLC		
			1	Intermediate circuit voltage		
			2	Mains voltage		
			3	Motor voltage		
			4	Motor current		
			5	Actual frequency value		
			6	-		
			7	-		
			8	IGBT temperature		
			9	Internal temperature		
			10	Error (NO)		
			11	Inverted error (NC)		
			12	Output stage release		
			13	Digital input 1		
			14	Digital input 2		
			15	Digital input 3		
			16	Digital input 4		
			17	Ready for operation		
			18	Ready		
			19	Operation		
			20	Ready for operation + ready		
			21	Ready for operation + ready + operation		
			22	Ready + operation		
			23	Motor power		
			24	Torque		
			25	Field bus		
			26	Analogue input 1		
			27	Analogue input 2		
			28	PID setpoint		
			29	PID actual value		
			30	STO channel 1		
			31	STO channel 2		
			32	Frequency setpoint after ramp		
			33	Frequency setpoint		
			34	Actual torque value		
			35	Actual frequency value magnitude		
			36	Torque magnitude		
			37	Frequency setpoint after ramp magnitude		
			38	Frequency setpoint magnitude		
			39	Actual torque value magnitude		
			50	Motor current limit active		
			51	Actual setpoint comparison of para. 6.070 - 6.071		

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
4.151	DO1 On	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.152	DO1 Off	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.170	DO2 function	0 - 51		Selection of the process variable to which the output should switch.	18	Always
			0	not assigned/customer-spec. PLC		
			1	Intermediate circuit voltage		
			2	Mains voltage		
			3	Motor voltage		
			4	Motor current		
			5	Actual frequency value		
			6	-		
			7	-		
			8	IGBT temperature		
			9	Internal temperature		
			10	Error (NO)		
			11	Inverted error (NC)		
			12	Output stage release		
			13	Digital input 1		
			14	Digital input 2		
			15	Digital input 3		
			16	Digital input 4		
			17	Ready for operation		
			18	Ready		
			19	Operation		
			20	Ready for operation + ready		
			21	Ready for operation + ready + operation		
			22	Ready + operation		
			23	Motor power		
			24	Torque		
			25	Field bus		
			26	Analogue input 1		
			27	Analogue input 2		
			28	PID setpoint		
			29	PID actual value		
			30	STO channel 1		
			31	STO channel 2		
			32	Frequency setpoint after ramp		
			33	Frequency setpoint		
			34	Actual torque value		
			35	Actual frequency value magnitude		
			36	Torque magnitude		
37	Frequency setpoint after ramp magnitude					
38	Frequency setpoint magnitude					

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			39	Actual torque value magnitude		
			50	Motor current limit active		
			51	Actual setpoint comparison of para. 6.070 - 6.071		
4.171	DO2 On	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.172	DO2 Off	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.190	Rel. 1 function	0 - 51		Selection of the process variable to which the output should switch.	19	Always
			0	not assigned/customer-spec. PLC		
			1	Intermediate circuit voltage		
			2	Mains voltage		
			3	Motor voltage		
			4	Motor current		
			5	Actual frequency value		
			6	-		
			7	-		
			8	IGBT temperature		
			9	Internal temperature		
			10	Error (NO)		
			11	Inverted error (NC)		
			12	Output stage release		
			13	Digital input 1		
			14	Digital input 2		
			15	Digital input 3		
			16	Digital input 4		
			17	Ready for operation		
			18	Ready		
			19	Operation		
			20	Ready for operation + ready		
			21	Ready for operation + ready + operation		
			22	Ready + operation		
			23	Motor power		
			24	Torque		
			25	Field bus		
			26	Analogue input 1		
			27	Analogue input 2		
			28	PID setpoint		
			29	PID actual value		
			30	STO channel 1		
			31	STO channel 2		
			32	Frequency setpoint after ramp		
			33	Frequency setpoint		
			34	Actual torque value		

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			35	Actual frequency value magnitude		
			36	Torque magnitude		
			37	Frequency setpoint after ramp magnitude		
			38	Frequency setpoint magnitude		
			39	Actual torque value magnitude		
			50	Motor current limit active		
			51	Actual setpoint comparison of para. 6.070 - 6.071		
4.191	Rel.1 On	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.192	Rel.1 Off	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.193	Rel.1 On delay	0 - 10000 [s]		Specifies the duration of the closing delay.	0	Always
4.194	Rel.1 Off delay	0 - 10000 [s]		Specifies the duration of the turn-off delay.	0	Always
4.210	Rel.2 function	0 - 51		Selection of the process variable to which the output should switch.	0	Always
			0	not assigned/customer-spec. PLC		
			1	Intermediate circuit voltage		
			2	Mains voltage		
			3	Motor voltage		
			4	Motor current		
			5	Actual frequency value		
			6	-		
			7	-		
			8	IGBT temperature		
			9	Internal temperature		
			10	Error (NO)		
			11	Inverted error (NC)		
			12	Output stage release		
			13	Digital input 1		
			14	Digital input 2		
			15	Digital input 3		
			16	Digital input 4		
			17	Ready for operation		
			18	Ready		
			19	Operation		
			20	Ready for operation + ready		
			21	Ready for operation + ready + operation		
			22	Ready + operation		
			23	Motor power		
24	Torque					
25	Field bus					

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			26	Analogue input 1		
			27	Analogue input 2		
			28	PID setpoint		
			29	PID actual value		
			30	STO channel 1		
			31	STO channel 2		
			32	Frequency setpoint after ramp		
			33	Frequency setpoint		
			34	Actual torque value		
			35	Actual frequency value magnitude		
			36	Torque magnitude		
			37	Frequency setpoint after ramp magnitude		
			38	Frequency setpoint magnitude		
			39	Actual torque value magnitude		
			50	Motor current limit active		
			51	Actual setpoint comparison of para. 6.070 - 6.071		
4.211	Rel. 2 On	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.212	Rel. 2 Off	-32767 - 32767		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.213	Rel. 2 On delay	0 - 10000 [s]		Specifies the duration of the closing delay.	0	Always
4.214	Rel. 2 Off delay	0 - 10000 [s]		Specifies the duration of the turn-off delay.	0	Always
4.230	VO function	0 - 51		Selection of the process variable to which the output should switch.	???	???
			0	not assigned/customer-spec. PLC		
			1	Intermediate circuit voltage		
			2	Mains voltage		
			3	Motor voltage		
			4	Motor current		
			5	Actual frequency value		
			6	-		
			7	-		
			8	IGBT temperature		
			9	Internal temperature		
			10	Error (NO)		
			11	Inverted error (NC)		
			12	Output stage release		
			13	Digital input 1		
			14	Digital input 2		
			15	Digital input 3		
16	Digital input 4					

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			17	Ready for operation		
			18	Ready		
			19	Operation		
			20	Ready for operation + ready		
			21	Ready for operation + ready + operation		
			22	Ready + operation		
			23	Motor power		
			24	Torque		
			25	Field bus		
			26	Analogue input 1		
			27	Analogue input 2		
			28	PID setpoint		
			29	PID actual value		
			30	STO channel 1		
			31	STO channel 2		
			32	Frequency setpoint after ramp		
			33	Frequency setpoint		
			34	Actual torque value		
			35	Actual frequency value magnitude		
			36	Torque magnitude		
			37	Frequency setpoint after ramp magnitude		
			38	Frequency setpoint magnitude		
			39	Actual torque value magnitude		
			50	Motor current limit active		
			51	Actual setpoint comparison of para. 6.070 - 6.071		
4.231	VO On	-10000 - 10000 [s]		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.232	VO Off	-10000 - 10000 [s]		If the set process variable exceeds the switch-on limit, the output is set to 1.	0	Always
4.233	VO On delay	0 - 32767 [s]		Specifies the duration of the closing delay.	0	Always
4.234	VO Off delay	0 - 32767 [s]		Specifies the duration of the turn-off delay.	0	Always
5.010	External error 1	0 - 7		Selection of the source via which an external error can be reported. When a high signal exists at the selected digital input, the drive controller switches with error no. 23 external error 1. By using the parameter 4.110 to 4.113 DIx inverse, the logic of the digital input can be inverted.	4	Always
			0	not assigned/customer-spec. PLC		
			1	Digital input 1		
			2	Digital input 2		
			3	Digital input 3		
			4	Digital input 4		
			5	Virtual output 1		

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			6	Analogue input 1		
			7	Analogue input 2		
5,011	External error 2	0 - 7		Selection of the source via which an external error can be reported. When a high signal exists at the selected digital input, the drive controller switches with error no. 24 external error 2. By using the parameter 4.110 to 4.113 DIx inverse, the logic of the digital input can be inverted.	0	Always
			0	not assigned/customer-spec. PLC		
			1	Digital input 1		
			2	Digital input 2		
			3	Digital input 3		
			4	Digital input 4		
			5	Virtual output 1		
			6	Analogue input 1		
			7	Analogue input 2		
5.070	Motor current limit	0 - 250 [%]		Here, a motor current limit can be given in % of the set rated motor current.	0	Always
5.071	Motor current limit	0 - 100 [s]		Here, the duration of a motor current limit can be given in s.	1	Always
5.075	Transmission factor	0 - 1000		The actual torque value can be adapted using this parameter	1	Always
5.080	Blocking detection	0 - 1		The blocking detection can be activated using this parameter.	0	Always
			0	Inactive		
			1	Active		
5.081	Blocking time	1 - 50 [s]		Specifies the time after which a blocking is detected.	2	Always
5082	Anlauffehler_akt	0-1		Turn-on criteria: when the actual frequency is smaller than 10% of the nominal frequency within 30 seconds or after half ramp time.	1	Always
			0	Inactive		
			1	Active		
5090	Change in parameter set	0-10		A change in parameter set can be carried out using this parameter	0	Always
			0	Inactive		
			1	Record 1 active		
			2	Record 2 active		
			3	Digital input 1		
			4	Digital input 2		
			5	Digital input 3		
			6	Digital input 4		
			7	Customer-spec. PLC		
			8	Virtual output 1		

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
			9	Analogue input 1		
			10	Analogue input 2		
5.100	Technical parameter 1				0	Always
5.101	Technical parameter 2				0	Always
5.102	Technical parameter 3				0	Always
5.103	Technical parameter 4				0	Always
5.104	Technical parameter 5				0	Always
5.105	Technical parameter 6				0	Always
5.106	Technical parameter 7				0	Always
5.107	Technical parameter 8				0	Always
5.108	Technical parameter 9				0	Always
5.109	Technical parameter 10				0	Always
5.110	Technical parameter 11				0	Always
5.111	Technical parameter 12				0	Always
5.112	Technical parameter				0	Always

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
	13					
5.113	Technical parameter 14				0	Always
5.114	Technical parameter 15				0	Always
5.115	Technical parameter 16				0	Always
5.116	Technical parameter 17				0	Always
5.117	Technical parameter 18				0	Always
5.118	Technical parameter 19				0	Always
5.119	Technical parameter 20				0	Always
6.050	SAS/SP F-Addr	0 - 31			0	Always
6.060	Field bus address	0 - 31			0	Commissioning
6.061	Field bus baud rate	0 - 8			2	Commissioning
6.062	Bus timeout	0 - 100 [s]			5	Always
6.063	Language of field bus	0 - 1		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!no longer available!!!!!!!!!!!!!!!!!!!!!!!!!!!!	0	Always
6.070	Abw. setpoint actual value	0-100 [%]			0	Always
6.071	Range of tolerance	0 - 32767 [s]			0	Always
6.072	Setpoint	0 - 400			0	Always

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
	reference value	[Hz]				
6.080	Prozessda Out 3	1 - 41			1	Always
6.081	Prozessda Out 4	1 - 41			2	Always
6.082	Prozessda Out 5	1 - 41			6	Always
6.083	Prozessda Out 6	1 - 41			5	Always
6.084	Prozessda Out 7	1 - 41			15	Always
6.085	Prozessda Out 8	1 - 41			16	Always
6.086	Prozessda Out 9	1 - 41			11	Always
6.087	Prozessda Out 10	1 - 41			13	Always
6.110	Prozessda In 3	0 - 6			0	Always
6.111	Prozessda In 4	0 - 6			1	Always
6.112	Prozessda In 5	0 - 6			2	Always
6.113	Prozessda In 6	0 - 6			2	Ready
33.001	Motor type	1 - 2	Make selection of the motor type, control mode (parameter 34.010) accordingly.		1	Ready
			1	Asynchronous motor		
			2	Synchronous motor		
33.010	I ² T fact. motor	0 - 1000 [%]		Here, the percentage of current threshold (based on the motor current 33.031) can be adjusted at the start of integration.	0	Ready
33.011	I ² T time	0 - 1200 [s]		Time after which the drive controller turns off with I ² T.	30	Ready
33.015	R optimisation	0 - 200 [%]		If necessary, the start-up behaviour can be optimised using this parameter.	100	Ready
33.031	Motor	0 - 150		Hereby, the rated motor current I _{M,N} is set for	Device-	Ready

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status
	current	[A]		either star- or delta connection.	/motor dependent	
33.032	Motor power	0 - 55000 [W]		A power value [kW] PM,N equal to the rated motor power must be set here.	Device-/motor dependent	Ready
33.034	Motor speed	0 - 80000 [rpm]		Here, the rated motor speed n M,N from the type plate data of the motor should be entered.	Device-/motor dependent	Ready
33.035	Motor frequency	10 - 400 [Hz]		The rated motor frequency f M,N is set here.	Device-/motor dependent	Ready
33.050	Stator resistance	0.00 - 100 [Ohm]		Here, the stator resistance can be optimised if the automatically determined value (on the motor identification) is not sufficient.	Device-/motor dependent	Ready
33.105	Leakage inductance	0 - 1 [H]		Only for asynchronous motors. Here, the leakage inductance can be optimised if the automatically determined value (on the motor identification) is not sufficient.	Device-/motor dependent	Ready
33.110	Motor voltage	0 - 1500 [V]		Only for asynchronous motors. Hereby, the rated motor voltage U M,N is set for either star- or delta connection.	Device-/motor dependent	Ready
33.111	Motor cosphi	0.5 - 1		Only for asynchronous motors. Here, the power factor cosphi from the type plate data of the motor should be entered.	Device-/motor dependent	Always
33.138	Holding current time	0 - 3600 [s]		Only for asynchronous motors. Is the time interval during which the drive is maintained with direct current after stoppage of the braking ramp.	0	Ready
34.010	Control mode	100 - 201		Selection of the control mode.	100	Ready
			100	open-loop asynchronous motor		
			101	close-loop asynchronous motor		
			200	open-loop synchronous motor		
	201	close-loop synchronous motor				
34.011	Encoder type	0 - 2		Selection of encoder type. ⚠ WARNING! When selecting the HTL encoder, 24V are outputted over the interface. This could lead to the destruction of the encoder when using a	0	Ready

1 Parameter list

Parameter number	Parameter name	Adjustable range	Possible selection	Parameter description	Work value 1	Take-over status	
			TTL encoder!				
			0	Inactive			
			1	TTL encoder			
			2	HTL encoder			
34.012	Encoder lines	0 - 10000		Selection of the lines of the encoder used.	1024	Always	
34.013	Encoder offset	-360 - 360 [°]		Here, an encoder offset can be set for the encoder.	0	Always	
34.020	Snap option	0 - 1	The snap option can be activated using this parameter.			0	Always
			0	Inactive			
			1	Active			
34.021	Snap time	0 - 1000 [ms]		The snap time can be entered here	100		
34.030	Switching frequency	1 - 4	Selection of the switching frequency of the drive controller.			2	Always
			1	16kHz			
			2	8kHz			
			4	4kHz			
34.090	n-controller Kp	0 - 10000 [mA/rad/s]		Here, the controller gain of the speed controller can be optimised if the automatically determined results (on the motor identification) are not sufficient.	Device-/motor dependent	Always	
34.091	n-controller Tn	0 - 10 [s]		Here, the reset time of the speed controller can be optimised if the automatically determined results (on the motor identification) are not sufficient.	Device-/motor dependent	Always	
34.110	Slip trimmer	0 - 1.5	The slip compensation can be optimised resp. deactivated here (for ASM).			0	Always
			0	Deactivated (behaviour as on the mains)			
			1	The slip is compensated.			
34.120	Square-law characteristic	0 - 1	Here, the function of the square-law characteristic can be activated (for ASM).			0	Always
			0	Inactive			
			1	Active			
34.121	Flow adjustment	10 - 100 [%]		The percentage by which the flow should be reduced can be set here (for ASM). Very large changes during operation may cause an overvoltage trip.	50	Always	
34.130	Voltage output control reserve	0 - 3		The voltage output can be adapted using this parameter (for ASM).	0.95	Always	
35.080	Braking chopper	0 - 1	The function of the braking chopper can be activated here.			0	Always
			0	Inactive			
			1	Active			



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