

For Firmware version 4.7 SP10, the list manuals of version V4.7 SP9 (Edition 09/2017) are valid for the products SINAMICS G120 CU240B/E-2, CU250S-2, G120C, G120D, G110M and SIMATIC ET 200pro.

The minor changes can be found in this product information.

A new edition (04/2018) has been issued for G120 CU230P-2.

Valid list manuals for version V4.7 SP10:

Product	Control Units	List manual short name	Valid list manual for version V4.7 SP10
SINAMICS G120	CU230P-2	LH09	Version V4.7 SP10, (04/2018)
	CU240B/E-2	LH11	Version V4.7 SP9, (09/2017)
	CU250S-2	LH15	Version V4.7 SP9, (09/2017)
SINAMICS G120C		LH13	Version V4.7 SP9, (09/2017)
SINAMICS G120D	CU240D-2	LH14	Version V4.7 SP9, (09/2017)
	CU250D-2		
SINAMICS G110M		LH16	Version V4.7 SP9, (09/2017)
SIMATIC ET 200pro		LH20	Version V4.7 SP9, (09/2017)

The parameter list contains the following changes

New parameter r7844:

r7844[0...2] Memory card/device memory firmware version/ Sp_karte/Ger_sp FW

Can be changed: -	Calculated: -	Access level: 2
Data type: Unsigned32	Dyn. Index: -	Function diagram: -
P group: -	Units group: -	Units selection: -
Not for motor type: -	Scaling: -	Expert list: 1
Min	Max	factory setting
-	-	-

Description:	Displays the version of the firmware stored on the memory medium of the drive device. Depending on the drive device being used, the memory medium is a memory card, or an internal non-volatile device memory.
Index:	[0] = Internal [1] = External [2] = Parameter backup
Note:	For index 0: Displays the internal firmware version (e.g. 04402315). This firmware version is the version of the memory card/device memory and not the CU firmware (r0018), however, normally they have the same versions. For index 1: Displays the external firmware version (e.g. 04040000 → 4.4, 04071001 → V4.7 SP10 HF1). For automation systems with SINAMICS Integrated, this is the runtime version of the automation system. For index 2: Displays the internal firmware version of the parameter backup. With this CU firmware version, the parameter backup was saved, which was used when powering up.

Expansions for BACnet MS/TP and Modbus RTU:

- p2020:
For p2030 = 5 (BACnet MS/TP) the following applies:
Possible values/factory setting: (6, 7, 8, 10) / 8
- p2024:
Factory setting p2024[0] = 6000
- p2025
Factory settings p2025[1] = 5, p2025[3] = 32
- p2030
Change to the designation for value: 5: BACnet changed to BACnet: MS/TP
- p2040
Factory setting 1000
Note added:
For p2030 = 2 (Modbus RTU) or p2030 = 5 (BACnet MS/TP) the following deviation applies:
Factory setting: 10000
- r2057
The parameter is now available for the following fieldbuses:
PROFIBUS, CAN, USS, Modbus RTU, BACnet MS/TP, P1
- p7610[0...78]:
The description was expanded to include the following sentence:
The object name is preassigned with device name and serial number the first time that the system runs up, e.g.: "SINAMICS G120 CU230P-2 HVAC - XAB812-005806"

New bit in p1780 for PM230 Power Module

Bit 8: Deselect preliminary measurement of inductance for pole position identification
1 signal = yes, 0 signal = no, factory setting = 0

Change to parameter p1800

- The following dependency was added:
Minimum pulse frequency: $p1800 \geq 12 * p1082 * r0313 / 60$
- The following note was added:
The pulse frequency cannot be changed when the motor data identification is activated.

New value in p0595, p11026, p11126, p11226

48: kg/cm²

New fault F30068

F30068 power unit: Undertemperature inverter heatsink

Message class: power electronics faulted (5)

Response: OFF2

Acknowledgment: IMMEDIATELY

Cause: The actual inverter heat sink temperature is below the permissible minimum value.

Possible causes:

- the power unit is being operated at an ambient temperature that lies below the permissible range.
- the temperature sensor evaluation is defective.

Fault value (r0949, interpret as decimal): Inverter heat sink temperature [0.1 °C].

Remedy:

- ensure that higher ambient temperatures prevail.
- replace the power unit.

New fault values in fault F01682

56: For "GX" Power Modules, encoderless monitoring functions are not supported.

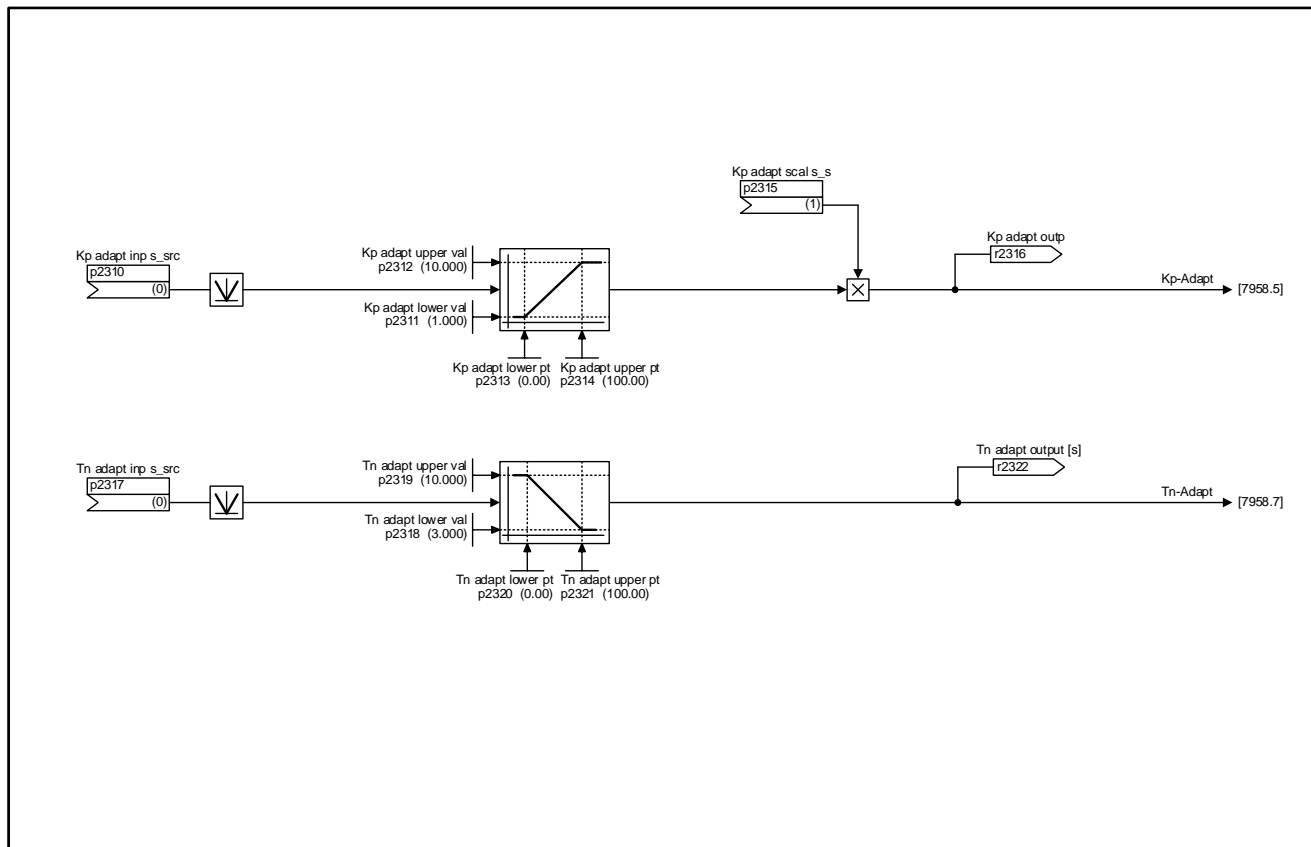
9586: Set value of p9586/p9386 is greater than the supported maximum value.

9588: Set value of p9588/p9388 is greater than the supported maximum value.

9589: Set value of p9589/p9389 is greater than the supported maximum value.

Adapted function diagram 7959 for G120 CU230P-2 and CU240B/E-2

The graphic for the Tn adaptation was adapted as the reference points were not correctly specified. The signal characteristic in the Tn adaptation was corrected from rising to falling, so that now the correct reference points for p2319 and p2320, as well as p2318 and p2321 are visible.



1	2	3	4	5	6	7	8
Technology controller					fp_7959_97_01.vsd	Function diagram	
Kp-/Tn-adaptation					13.03.2018 V4.7_10	G120 CU230P-2	
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Supplement to function diagrams [2475] and [2479] for G120 CU250S-2 and CU250D-2

Up until now, function diagrams for STW1 [2475] and ZSW1 [2479] in the positioning mode were missing in the documentation. These are required if the basic positioner (EPOS) and telegram 7, 9, 110 or 111 are used.

Signal targets for STW1 (positioning mode, p0108.4 = 1)						<1>
Signal	Meaning	Interconnection parameters	[Function diagram] internal control word	[Function diagram] signal target	Inverted	
STW1.0	1 = ON (pulses can be enabled) 0 = OFF1 (braking with ramp-function generator, then pulse suppression & ready for switching on)	p084[0] = r2090.0	[2501.3]	Sequence control	-	
STW1.1	1 = No OFF2 (enable is possible) 0 = OFF2 (immediate pulse suppression and switching on inhibited)	p084[4] = r2090.1	[2501.3]	Sequence control	-	
STW1.2	1 = No OFF3 (enable is possible) 0 = OFF3 (braking with the OFF3 ramp p1135, then pulse suppression and switching on inhibited)	p084[8] = r2090.2	[2501.3]	Sequence control	-	
STW1.3	1 = Enable operation (pulses can be enabled) 0 = Inhibit operation (suppress pulses)	p085[2] = r2090.3	[2501.3]	Sequence control	-	
STW1.4	1 = Do not reject traversing task 0 = Reject traversing task	p2641 = r2090.4	-	[3616.5], [3625]	-	
STW1.5	1 = No intermediate stop 0 = Intermediate stop	p2640 = r2090.5	-	[3616.5], [3625]	-	
STW1.6	1 = Activate traversing task	<3> p2631 = r2090.6 p2650 = r2090.6	-	[3616.1], [3620.1], [3625]	-	
STW1.7	1 = Acknowledge faults	p210[3] = r2090.7	[2546.1]	[8060]	-	
STW1.8	1 = Jog 1 signal source	p2589 = r2090.8	-	[3610.1], [3625]	-	
STW1.9	1 = Jog 2 signal source	p2590 = r2090.9	-	[3610.1], [3625]	-	
STW1.10	1 = Control via PLC	<2> p085[4] = r2090.10	[2501.3]	[2501]	-	
STW1.11	1 = Start referencing 1 = Stop referencing	p2595 = r2090.11	-	[3612.1], [3625]	-	
STW1.12	Reserved	-	-	-	-	
STW1.13	1 = External block change	p2633 = r2090.13	-	[3615]	-	
STW1.14	Reserved	-	-	-	-	
STW1.15	Reserved	-	-	-	-	

<1> Used in telegrams 7, 9, 110, 111.
<2> Bit 10 in STW1 must be set to ensure that the drive accepts the process data.
<3> The interconnection p2649 = 0 is made additionally only in Telegram 7, 9 and 110.

1	2	3	4	5	6	7	8
PROFIdrive (PROFIBUS/PROFINET), EtherNet/IP					fp_2475_97_55.vsd	Function diagram	
PROFIdrive - STW1 control word interconnection (p0108.4 = 1)					14.03.2018 V4.7_10	G120 CU250S-2 DP/PN	

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Signal sources for ZSW1 (positioning mode, p0108.4 = 1)						<1>
Signal	Meaning	Interconnection parameters	[Function diagram] internal control word	[Function diagram] signal source	Inverted	
ZSW1.0	1 = Ready for switch on	p2080[0] = r0899.0	[2503.7]	Sequence control	-	
ZSW1.1	1 = Ready (DC link loaded, pulses inhibited)	p2080[1] = r0899.1	[2503.7]	Sequence control	-	
ZSW1.2	1 = Operation enabled (drive follows n_set)	p2080[2] = r0899.2	[2503.7]	Sequence control	-	
ZSW1.3	1 = Fault present	p2080[3] = r2139.3	[2548.7]	[8060]	-	
ZSW1.4	1 = No coast down active (OFF2 inactive)	p2080[4] = r0899.4	[2503.7]	Sequence control	-	
ZSW1.5	1 = No Quick stop active (OFF3 inactive)	p2080[5] = r0899.5	[2503.7]	Sequence control	-	
ZSW1.6	1 = Switching on inhibited active	p2080[6] = r0899.6	[2503.7]	Sequence control	-	
ZSW1.7	1 = Alarm present	p2080[7] = r2139.7	[2548.7]	[8065]	-	
ZSW1.8	1 = Following error within tolerance	p2080[8] = r2684.8	[3646.7]	[4025.8]	-	
ZSW1.9	1 = Control requested	<2> p2080[9] = r0899.9	[2503.7]	[2503]	-	
ZSW1.10	1 = Target position reached	p2080[10] = r2684.10	[3646.7]	[3625], [4020.8]	-	
ZSW1.11	1 = Reference point set	p2080[11] = r2684.11	[3646.7]	[3612.7], [3614.7]	-	
ZSW1.12	1 = Acknowledgment traversing block activated	p2080[12] = r2684.12	[3646.7]	[3616.6], [3620.8]	-	
ZSW1.13	1 = Setpoint available	p2080[13] = r2683.2	[3645.7]	[3635.6]	-	
ZSW1.14	1 = Axis is accelerating	<3> p2080[14] = r2684.4	[3646.7]	[3635.6]	-	
ZSW1.15	1 = Axis is decelerating	<3> p2080[15] = r2684.5	[3646.7]	[3635.6]	-	

<1> Used in telegrams 7, 9, 110, 111.
<2> The drive object is ready to accept data.
<3> Only for telegram 111.

1	2	3	4	5	6	7	8
PROFIdrive (PROFIBUS/PROFINET), EtherNet/IP					fp_2479_97_55.vsd	Function diagram	
PROFIdrive - ZSW1 status word interconnection (p0108.4 = 1)					14.03.2018 V4.7_10	G120 CU250S-2 DP/PN	

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Supplement to footnote <1> on function diagram [2444] for G120 CU250S-2 and CU250D-2

Signal targets for STW2 in Interface Mode SINAMICS (p2038 = 0)							
Signal	Meaning	Interconnection parameters	[Function diagram] internal control word	[Function diagram] signal target	Inverted		
STW2.0	Drive Data Set selection DDS bit 0	p0820[0] = r2093.0	-	[8565]	-		
STW2.1	Drive Data Set selection DDS bit 1	p0821[0] = r2093.1	-	[8565]	-		
STW2.2	Reserved	-	-	-	-		
STW2.3	Reserved	-	-	-	-		
STW2.4	Reserved	-	-	-	-		
STW2.5	Reserved	-	-	-	-		
STW2.6	Reserved	-	-	-	-		
STW2.7	1 = Parking axis is selected	p0897 = r2093.7	-	-	-		
STW2.8	1 = Traverse to fixed endstop active	p1545[0] = r2093.8	[2520.2]	[8012]	-		
STW2.9	Reserved	-	-	-	-		
STW2.10	Reserved	-	-	-	-		
STW2.11	Reserved	-	-	-	-		
STW2.12	Master sign-of-life, bit 0	p2045 = r2050[3]	-	[2410]	-		
STW2.13	Master sign-of-life, bit 1						
STW2.14	Master sign-of-life, bit 2						
STW2.15	Master sign-of-life, bit 3						
<1> Not for telegrams 9, 110 and 111.							
1	2	3	4	5	6	7	8
PROFIdrive (PROFIBUS/PROFINET), EtherNet/IP				fp_2444_97_03.vsd	Function diagram		- 2444 -
PROFIdrive - STW2 control word interconnection (p2038 = 0)				14.03.2018 V4.7_10	G120 CU250S-2 DP/PN		