Smart Energy Code

SEC
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Draft Legal Text

SECMP0018:

Standard Electricity Distributor Configuration Settings

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Summary

This modification aims to set default values for Electricity Network Parties (ENPs) configuration settings for all Electrical Smart Metering Equipment (ESME). This will reduce the need for ENPs to apply settings immediately after the ESME is first installed and commissioned.

About this document

This document contains the draft SEC legal text that will deliver the intent of SECMP00018.

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1. Draft Legal Text

This section sets out the draft Legal Text Changes for SECMP0018. These changes have been drafted against the GB Companion Specification (GBCS) version 3.1.

Schedule 8 - GB Companion Specification Version 3.1,

Changes to Schedule 8 - GB Companion Specification Version 3.1, Annex 7: *Data Item Values to be set prior to installation of Device*

Annex 7 – Data Item Values to be set prior to installation of Devices

Tables 28a and 28b lists data items and values that shall be configured in Devices prior to installation.

Device	Data Item	Reference	Value	Notes
ESME (all variants)	Maximum Meter Balance Threshold	SMETS 5.7.4.27	300,000,000 millipence	NA
ESME (all variants)	Randomised Offset Limit	SMETS 5.7.4.33	600 seconds	The Randomised Offset Is the product of the Randomised Offset Limit(5.7.4.33) and the Randomised Offset Number(5.7.1.5) rounded to the nearest second. This value is used to delay the Tariff Switching Table times, the Auxiliary Load Control Switch switching times, and HAN Connected Auxiliary Load Control Switch switching times
ESME (all variants)	RMS Extreme Over Voltage Threshold	SMETS 5.7.4.35	265.0 volts	GBCS Use Cases specify a resolution to tenths of volts
ESME (all variants)	RMS Extreme Over Voltage Measurement Period	SMETS 5.7.4.34	180 seconds	NA
ESME (all variants)	RMS Extreme Under Voltage Threshold	SMETS 5.7.4.37	190.0 volts	NA
ESME (all variants)	RMS Extreme Under Voltage Measurement Period	SMETS 5.7.4.36	180 seconds	NA
ESME (all variants)	RMS Voltage Sag Threshold	SMETS 5.7.4.40	190.0 volts	NA

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Device	Data Item	Reference	Value	Notes
ESME (all variants)	RMS Voltage Sag Measurement Period	SMETS 5.7.4.38	180 seconds	NA
ESME (all variants)	RMS Voltage Swell Threshold	SMETS 5.7.4.41	265.0 volts	NA
ESME (all variants)	RMS Voltage Swell Measurement Period	SMETS 5.7.4.39	180 seconds	NA
ESME (all variants)	(Phase[1]) Average RMS Voltage Measurement Period	SMETS 5.7.4.6 (5.19.1.3)	1800 seconds	NA
ESME (all variants)	(Phase[1]) Average RMS Under Voltage Threshold	SMETS 5.7.4.5 (5.19.1.2)	212.0 volts	NA
ESME (all variants)	(Phase[1]) Average RMS Over Voltage Threshold	SMETS 5.7.4.4 (5.19.1.1)	258.0 volts	NA
Polyphase ESME	Phase[2] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	1800 seconds	NA
Polyphase ESME	Phase[2] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	212.0 volts	NA
Polyphase ESME	Phase[2] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	258.0 volts	NA
Polyphase ESME	Phase[3] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	1800 seconds	NA
Polyphase ESME	Phase[3] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	212.0 volts	NA
Polyphase ESME	Phase[3] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	258.0 volts	NA
ESME (all variants)	Maximum Demand Configurable Time Period: - start time	SMETS 5.7.4.26	16:00 in hh:mm	
ESME (all variants)	Maximum Demand Configurable Time Period:- end time	SMETS 5.7.4.26	20:00 in hh:mm	

Table 0a: Data items and values to be configured prior to installation of Devices

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Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Maximum Meter Balance Threshold	SMETS 5.7.4.27	9000	0-0:94.44.2.20	4	value_ passive	double-long	0x11E1A300	300,000,000
Randomised Offset Limit	SMETS 5.7.4.33	1	0-0:94.44.0.1	2	value	long-unsigned	0x0258	600
RMS Extreme Over Voltage Threshold	SMETS 5.7.4.35	71	0-0:17.0.1.255	4	threshold_normal	double-long-unsigned	0x00000A5A	2650
RMS Extreme Over Voltage Measurement Period	SMETS 5.7.4.34	71	0-0:17.0.1.255	6	min_over_threshold_duration	double-long-unsigned	0x000000B4	180
RMS Extreme Under Voltage Threshold	SMETS 5.7.4.37	71	0-0:17.0.2.255	4	threshold_normal	double-long-unsigned	0x00000076C	1900
RMS Extreme Under Voltage Measurement Period	SMETS 5.7.4.36	71	0-0:17.0.2.255	6	min_over_threshold_duration	double-long-unsigned	0x000000B4	180
RMS Voltage Sag Threshold	SMETS 5.7.4.40	71	0-0:17.0.3.255	4	threshold_normal	double-long-unsigned	0x00000076C	1900
RMS Voltage Sag Measurement Period	SMETS 5.7.4.38	71	0-0:17.0.3.255	6	min_over_threshold_duration	double-long-unsigned	0x000000B4	180
RMS Voltage Swell Threshold	SMETS 5.7.4.41	71	0-0:17.0.4.255	4	threshold_normal	double-long-unsigned	0x00000A5A	2650
RMS Voltage Swell Measure	SMETS 5.7.4.39	71	0-0:17.0.4.255	6	min_over_threshold_duration	double-long-unsigned	0x000000B4	180

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
ment Period								
(Phase[1]) Average RMS Voltage Measurement Period	SMETS 5.7.4.6 (5.19.1.3)	7	1-0:32.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800
(Phase[1]) Average RMS Under Voltage Threshold	SMETS 5.7.4.5 (5.19.1.2)	1	1-0:32.31.0.4	2	value	double-long-unsigned	0x00000848	2120
(Phase[1]) Average RMS Over Voltage Threshold	SMETS 5.7.4.4 (5.19.1.1)	1	1-0:32.35.0.4	2	value	double-long-unsigned	0x00000A14	2580
Phase[2] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	7	1-0:52.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800
Phase[2] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	1	1-0:52.31.0.4	2	value	double-long-unsigned	0x00000848	2120
Phase[2] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	1	1-0:52.35.0.4	2	value	double-long-unsigned	0x00000A14	2580
Phase[3] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	7	1-0:72.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800
Phase[3] Average RMS	SMETS 5.19.1.2	1	1-0:72.31.0.4	2	value	double-long-	0x00000848	2120

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Under Voltage Threshold						unsigned		
Phase[3] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	1	1-0:72.35.0.4	2	value	double-long-unsigned	0x00000A14	2580

Table 28b: DLMS COSEM values to be configured in Devices at manufacture.

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8002	Average RMS Voltage above Average RMS Over Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x8003	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x8004	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 2 (current value above threshold; previous value below threshold)	Y	Y
0x8005	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 3 (current value above threshold; previous value below threshold)	Y	Y
0x8006	Average RMS Voltage below Average RMS Under Voltage Threshold (current value below threshold; previous value above threshold)	Y	Y
0x8007	Average RMS Voltage below Average RMS Under Voltage Threshold on Phase 1 (current value below threshold; previous value above threshold)	Y	Y
0x8008	Average RMS Voltage below Average RMS Under Voltage Threshold on Phase 2 (current value below threshold; previous value above threshold)	Y	Y
0x8009	Average RMS Voltage below Average RMS Under Voltage Threshold on Phase 3 (current value below threshold; previous value above threshold)	Y	Y
0x8020	RMS Voltage above Extreme Over Voltage Threshold (voltage rises above for longer than the configurable period)	Y	Y

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8002	Average RMS Voltage above Average RMS Over Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x8003	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x8021	RMS Voltage above Extreme Over Voltage Threshold on Phase 1 (voltage rises above for longer than the configurable period)	Y	Y
0x8022	RMS Voltage above Extreme Over Voltage Threshold on Phase 2 (voltage rises above for longer than the configurable period)	Y	Y
0x8023	RMS Voltage above Extreme Over Voltage Threshold on Phase 3 (voltage rises above for longer than the configurable period)	Y	Y
0x8024	RMS Voltage above Voltage Swell Threshold (voltage rises above for longer than the configurable period)	N	N
0x8025	RMS Voltage above Voltage Swell Threshold on Phase 1 (voltage rises above for longer than the configurable period)	N	N
0x8026	RMS Voltage above Voltage Swell Threshold on Phase 2 (voltage rises above for longer than the configurable period)	N	N
0x8027	RMS Voltage above Voltage Swell Threshold on Phase 3 (voltage rises above for longer than the configurable period)	N	N
0x8028	RMS Voltage below Extreme Under Voltage Threshold (voltage falls below for longer than the configurable period)	Y	Y
0x8029	RMS Voltage below Extreme Under Voltage Threshold on Phase 1 (voltage falls below for longer than the configurable period)	Y	Y
0x802A	RMS Voltage below Extreme Under Voltage Threshold on Phase 2 (voltage falls below for longer than the configurable period)	Y	Y
0x802B	RMS Voltage below Extreme Under Voltage Threshold on Phase 3 (voltage falls below for longer than the configurable period)	Y	Y
0x802C	RMS Voltage below Voltage Sag Threshold (voltage falls below for longer than the configurable period)	N	N
0x802D	RMS Voltage below Voltage Sag Threshold on Phase 1 (voltage falls below for longer than the configurable period)	N	N

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Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8002	Average RMS Voltage above Average RMS Over Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x8003	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x802E	RMS Voltage below Voltage Sag Threshold on Phase 2 (voltage falls below for longer than the configurable period)	N	N
0x802F	RMS Voltage below Voltage Sag Threshold on Phase 3 (voltage falls below for longer than the configurable period)	N	N
0x8085	Average RMS Voltage below Average RMS Over Voltage Threshold (current value below threshold; previous value above threshold)	Y	Y
0x8086	Average RMS Voltage below Average RMS Over Voltage Threshold on Phase 1 (current value below threshold; previous value above threshold)	Y	Y
0x8087	Average RMS Voltage below Average RMS Over Voltage Threshold on Phase 2 (current value below threshold; previous value above threshold)	Y	Y
0x8088	Average RMS Voltage below Average RMS Over Voltage Threshold on Phase 3 (current value below threshold; previous value above threshold)	Y	Y
0x8089	Average RMS Voltage above Average RMS Under Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x808A	Average RMS Voltage above Average RMS Under Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x808B	Average RMS Voltage above Average RMS Under Voltage Threshold on Phase 2 (current value above threshold; previous value below threshold)	Y	Y
0x808C	Average RMS Voltage above Average RMS Under Voltage Threshold on Phase 3 (current value above threshold; previous value below threshold)	Y	Y
0x808D	RMS Voltage above Extreme Over Voltage Threshold (voltage returns below for longer than the configurable period)	Y	Y
0x808E	RMS Voltage above Extreme Over Voltage Threshold on Phase 1 (voltage returns below for longer than the configurable period)	Y	Y
0x808F	RMS Voltage above Extreme Over Voltage Threshold on Phase 2 (voltage returns below for longer than the configurable period)	Y	Y

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Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8002	Average RMS Voltage above Average RMS Over Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x8003	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x8090	RMS Voltage above Extreme Over Voltage Threshold on Phase 3 (voltage returns below for longer than the configurable period)	Y	Y
0x8091	RMS Voltage above Voltage Swell Threshold (voltage returns below for longer than the configurable period)	N	N
0x8092	RMS Voltage above Voltage Swell Threshold on Phase 1 (voltage returns below for longer than the configurable period)	N	N
0x8093	RMS Voltage above Voltage Swell Threshold on Phase 2 (voltage returns below for longer than the configurable period)	N	N
0x8094	RMS Voltage above Voltage Swell Threshold on Phase 3 (voltage returns below for longer than the configurable period)	N	N
0x8095	RMS Voltage below Extreme Under Voltage Threshold (voltage returns above for longer than the configurable period)	Y	Y
0x8096	RMS Voltage below Extreme Under Voltage Threshold on Phase 1 (voltage returns above for longer than the configurable period)	Y	Y
0x8097	RMS Voltage below Extreme Under Voltage Threshold on Phase 2 (voltage returns above for longer than the configurable period)	Y	Y
0x8098	RMS Voltage below Extreme Under Voltage Threshold on Phase 3 (voltage returns above for longer than the configurable period)	Y	Y
0x8099	RMS Voltage below Voltage Sag Threshold (voltage returns above for longer than the configurable period)	N	N
0x809A	RMS Voltage below Voltage Sag Threshold on Phase 1 (voltage returns above for longer than the configurable period)	N	N
0x809B	RMS Voltage below Voltage Sag Threshold on Phase 2 (voltage returns above for longer than the configurable period)	N	N
0x809C	RMS Voltage below Voltage Sag Threshold on Phase 3 (voltage returns above for longer than the configurable period)	N	N

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8002	Average RMS Voltage above Average RMS Over Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x8003	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x8010	Over Current	N	N
0x8011	Over Current L1	N	N
0x8016	Over Current L2	N	N
0x8013	Over Current L3	N	N
0x8014	Power Factor Threshold Below	N	N
0x8015	Power Factor Threshold Ok	N	N

Table 28c: WAN Alert and Power Event Log settings to be configured prior to installation of Devices

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Attribute	COSEM datatype	Tag	Length	Value	Meaning
entries:entries[1..2]	array	0x01	0x02		An array with two entries, the first turns on monitoring and the second turns it off
entries:entries[1]. schedule_table_entry. Index	long-unsigned	0x12		0x0001	The first entry which turns monitoring on
entries:entries[1]. schedule_table_entry. enable	boolean	0x03		0x01	True, so the entry always executes
entries:entries[1]. schedule_table_entry. script_logical_name	octet-string(6)	0x09	0x06	0x00000A8064FF	0-0:10.128.100.255 which, as per Table 7.3.8, is the script table controlling monitoring
entries:entries[1]. schedule_table_entry. script_selector	long-unsigned	0x12		0x0001	Meaning start monitoring at the time in this entry
entries:entries[1]. schedule_table_entry. switch_time	octet-string(4)	0x09	0x04	0x10000000	16:00:00:00 - the time at which monitoring is to turn on
entries:entries[1]. schedule_table_entry. validity_window	long-unsigned	0x12		0xFFFF	The script is processed at any time after power failure
entries:entries[1]. schedule_table_entry. exec_weekdays	bit-string(7)	0x04	0x07	0xF8	0xF8 = 0b11111000, which means execute this script on Monday to Friday inclusive

Attribute	COSEM datatype	Tag	Length	Value	Meaning
entries:entries[1]. schedule_table_entry. exec_specdays	bit-string(0)	0x04	0x00		No special day processing
entries:entries[1]. schedule_table_entry. begin_date	octet-string(5)	0x09	0x05	0xFFFF0A1FFF	0xFFFF (means any year), 0x0A (means tenth month, so October), 0x1F (means 31st), and 0xFF (means any day of the week)
entries:entries[1]. schedule_table_entry. end_date	octet-string(5)	0x09	0x05	0xFFFF021CFF	0xFFFF (means any year), 0x02 (means second month, so February), 0x1C (means 28th), and 0xFF (means any day of the week)
entries:entries[2]. schedule_table_entry. index	long-unsigned	0x12		0x0002	The second entry which turns monitoring off
entries:entries[2]. schedule_table_entry. enable	boolean	0x03		0x01	True, so the entry always executes
entries:entries[2]. schedule_table_entry. script_logical_name	octet-string(6)	0x09	0x06	0x00000A8064FF	0-0:10.128.100.255 which, as per Table 7.3.8, is the script table controlling monitoring
entries:entries[2]. schedule_table_entry. script_selector	long-unsigned	0x12		0x0002	Meaning stop monitoring at the time in this entry
entries:entries[2]. schedule_table_entry. switch_time	octet-string(4)	0x09	0x04	0x14000000	20:00:00:00 - the time at which monitoring is to turn off
entries:entries[2]. schedule_table_entry. validity_window	long-unsigned	0x12		0xFFFF	The script is processed at any time after power failure

Attribute	COSEM datatype	Tag	Length	Value	Meaning
entries:entries[2]. schedule_table_entry. exec_weekdays	bit-string(7)	0x04	0x07	0xFE	0xFE = 0b11111110, which means execute this script every day
entries:entries[2]. schedule_table_entry. exec_specdays	bit-string(0)	0x04	0x00		No special day processing
entries:entries[2]. schedule_table_entry. begin_date	octet-string(5)	0x09	0x05	0x000001FFFF	From the start of time
entries:entries[2]. schedule_table_entry. end_date	octet-string(5)	0x09	0x05	0xFFFFFFFFFF	For all time

Table 28d: Tag, length and values to be populated in attribute 2 of OBIS code 0-0:12.0.0.255 (which relates to the SMETS 'Maximum Demand Configurable Time Period ') to be configured prior to installation of ESME.