شرکت مدیریت تولید، انتقال و توزیع نیروی برق توانیر

معاونت هماهنگی توزیع

دفتر هوشمندسازی و فن آوری های نوین

سند قابلیت همکاری کنتورهای هوشمند چندتعرفه تک‌فاز و سه‌فاز اتصال مستقیم با قابلیت قطع و وصل بار – فهام۲

شرکت مدیریت تولید، انتقال و توزیع نیروی برق ایران (توانیر)

سند قابلیت همکاری

کنتورهای هوشمند چندتعرفه تک‌فاز و سه‌فاز اتصال مستقیم با قابلیت قطع و وصل بار – فهام۲

مقام تصویب کننده: معاون هماهنگی توزیع شرکت توانیر

دریافت کنندگان سند:

- کمیته فنی و بازرگانی توانیر ☐
- شرکت‌های توزیع نیروی برق ☐

تهیه‌کننده: معاونت هماهنگی توزیع- دفتر هوشمندسازی و فن‌آوری‌های نوین -کمیته تخصصی زیرساخت اندازه‌گیری هوشمند(**AMI**)

ویرایش: ٤

دی ماه ١٤٠١

سایت دفتر: **www.tavanir.org.ir/newde**

تهیه‌کننده:	تاییدکننده:	تصویب‌کننده:
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اعضای مشارکت کننده در جلسات تخصصی بررسی سند قابلیت همکاری کنتورهای هوشمند چندتعرفه تک‌فاز و سه‌فاز اتصال مستقیم با قابلیت قطع و وصل بار – فهام۲

با تشکر از نمایندگان محترم شرکت‌های توزیع نیروی برق، شرکت‌های سازنده و تأمین کننده تجهیزات، مشاورین، آزمایشگاه‌های مرجع، اساتید دانشگاه و شرکت توانیر به شرح زیر که در مراحل مختلف تهیه و بازنگری دستورالعمل و انجام بررسی‌های تخصصی و نهایی کردن این سند با حضور در جلسات و اعلام نقطه نظرات کارشناسی موجبات هرچه پربارتر شدن مطالب را فراهم آورند.

آقای دکتر حامد احمدی	شرکت توانیر
آقای مهندس مهرداد صمدی	شرکت توانیر
آقای مهندس نادر سالک گیلانی	شرکت توانیر
خانم مهندس الهام صیادی	شرکت توانیر
آقای مهندس علی صنعتگران محب علی	پژوهشگاه نیرو
خانم مهندس میرفلاح	شرکت صنایع انرژی
آقای مهندس محسن عسگری	شرکت توزیع نیروی برق آذربایجان غربی
آقای مهندس محمد کارگر مقدم	شرکت توزیع نیروی برق شهرستان مشهد
آقای مهندس حمیدرضا جاوری	شرکت توزیع نیروی برق شهرستان اصفهان
آقای مهندس کاوه ضیاءبخش	شرکت توزیع نیروی برق تهران بزرگ
آقای مهندس خوش صفت	شرکت توزیع نیروی برق تهران بزرگ
آقای مهندس علیرضا صمدی	شرکت توزیع نیروی برق استان خوزستان
خانم مهندس ناهید مختاری	شرکت موننکو ایران
آقای مهندس مهدی اکبری	شرکت الکترونیک افزارآزما
آقای مهندس ابراهیم علوی	شرکت الکترونیک افزارآزما
آقای مهندس مجتبی سعیدی	شرکت بهینه سازان طوس
خانم مهندس آذر خطیب	شرکت بهینه سازان طوس
آقای مهندس مسعود گلستانی	شرکت سنجش نیرو هوشمند
آقای مهندس هادی نصیبی باطنی	شرکت سنجش نیرو هوشمند
آقای مهندس احسان حسینی منش	شرکت توس فیوز
آقای مهندس غلامرضا کوهساری	شرکت راد نیروی صنعتی کرمان
آقای مهندس سعید پیوند کرمانی	شرکت فراب
آقای مهندس سهراب ذاکری	شرکت کنتورسازی ایران
آقای مهندس قانع	شرکت کنتورسازی ایران

مقدمه

نظر به اهمیت موضوع تسهیل و تسریع در اجرای طرح فهام برای مشترکین غیردیماندی و ایجاد قابلیت همکاری درکنتورهای هوشمند سه فاز اتصال مستقیم و تک‌فاز چندتعرفه ترمینالی، سوکتی و ریلی– فهام۲، این سند تنظیم و پس از طرح و تایید در کمیته تخصصی **زیرساخت اندازه‌گیری هوشمند(AMI)** (متشکل از کارشناسان شرکت‌های توزیع نیروی برق، سازندگان، مشاورین، آزمایشگاه‌های مرجع و اساتید دانشگاهی) نهایی شده است. گیرندگان سند موظف به پیاده‌سازی ساختار تبادل داده تدوین شده در این نوع کنتورها می‌باشند.

لازم بذکر است این سند منطبق با ویرایش قبلی (ویرایش ۳/۳) سند قابلیت‌همکاری کنتورهای فهام ۲ می‌باشد که به دلیل اضافه کردن کلید فعال/غیرفعالسازی رله داخلی، مدیریت انرژی و پاره‌ای از اصلاحات و رفع ابهامات به عنوان ویرایش٤ ابلاغ می‌گردد.

۱– هدف و دامنه کاربرد

این سند با هدف یکسان‌سازی ساختار تبادل داده کنتورهای هوشمند فهام۲ با نرم‌افزارهای مرکزی و ایجاد قابلیت همکاری در کنتورهای هوشمند (ویرایش٤ و بالاتر) تنظیم شده‌است. مبنای تهیه این دستورالعمل اسناد FID2 بوده و سعی شده است به‌گونه‌ای تدوین گردد تا علاوه بر کنتورهای طرح فهام، کنتورهای هوشمند فهام۲ نیز قابل قرائت توسط نرم‌افزارهای مرکزی (MDM) باشند.

۲– محدوده اجرا

محدوده اجرای این دستورالعمل کلیه‌ی شرکت‌های توزیع نیروی برق و مسئول پیاده‌سازی مفاد آن، شرکت‌های سازنده و تأمین‌کننده کنتورهای هوشمند فهام۲ و شرکت‌های تولیدکننده و پشتیبان نرم‌افزار مرکزی (MDM) می‌باشند.

۳– تعاریف

۳–۱– مواردی در سند که با علامت – – و × مشخص شده‌اند به معنای عدم پیاده‌سازی بوده و درصورت پیاده‌سازی، نتیجه آزمون توسط آزمایشگاه مرجع، مردود اعلام خواهد شد.

۳–۲– مواردی که با حرف M مشخص شده‌اند، به‌معنای الزام پیاده‌سازی می‌باشد.

۳–۳– پیاده‌سازی مواردی که با حرف O مشخص شده‌اند، اختیاری می‌باشد.

۳–٤– پیاده‌سازی Object و Attribute های اضافه بر موارد ذکر شده در سند حاضر، درصورت تطابق با سند FID2 بلامانع می‌باشد.

٤- استانداردهای مورد استناد

مبنای مشـــخصـــات فنی در این دســـتورالعمل به ترتیب اســـتانداردهای بین المللی (با تأکید بر IEC) و اســـتانداردهای کشـورهای صـنعتی پیشـرفته اسـت. در زمان تنظیم این دسـتورالعمل اسـتانداردهای ملی یا صـنعت برق کشـور در این زمینه تدوین نشده است. بر این اساس، استانداردهای زیر مورد استناد قرار گرفته اند:

[۱] دستورالعمل تعیین الزامات، معیارهای ارزیابی فنی و آزمون‌های کنتورهای هوشمند سه‌فاز اتصال مستقیم و تک‌فاز (ویرایش٤) – فهام ۲ ، ابلاغی طی نامه شماره ۹۸/۳۱۳/۱۳۹۷ مورخ ۹۸/٤/۲۸

[۲] دستورالعمل تعیین الزامات، معیارهای ارزیابی فنی و آزمون‌های کنتورهای هوشمند تک‌فاز چندتعرفه ریلی با قابلیت قطع و وصل بار(ویرایش ٤.۳)- فهام۲، ابلاغی طی نامه شماره ۱٤۰۱/۳۱۳/۱۱۰٦ مورخ ۱٤۰۱/۰۳/۲۲

[3] FID2 Interoperability Specification,V2.0

[4] Specification of General, Economical, Functional, Technical and Communicational Requirements for the Advanced Metering Infrastructure (AMI), V1.2 90 03 16

[5] DLMS UA 1000-1:2014 12.1th Ed.

[6] DLMS UA 1000-2:2014 8th Ed.

۵- فهرست Object ها

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	IEC HDLC setup-HDLC optical port		**23**	**1**	**0-0:22.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000160000FF"	--	--	Get	(Get)			
2	comm_speed	enum				--	Set	Get, Set	(Get)	9600	9600	At least 9600 baud
7	inter_octet_time_out	long_unsigned			[20..6000]	--	Set	Get, Set	(Get)			
8	inactivity_time_out	long_unsigned			180 Seconds	--	Set	Get, Set	(Get)			As well as normal graceful release and power off, meter should be released by inactivity_time_out
9	device_address	long_unsigned				--	--	Get,	(Get)			
	IEC HDLC setup -HDLC electrical port (RS485)		**23**	**1**	**0-2:22.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0002160000FF"	--	--	Get	--			
2	comm_speed	Enum			Choice (4,5,6)	--	Set	Get, Set	--			4800, 9600, 19200 baud
7	inter_octet_time_out	long_unsigned			[20..6000]	--	Set	Get, Set	--			
8	inactivity_time_out	long_unsigned			180 Seconds	--	Set	Get, Set	--			As well as normal graceful release and power off, meter should be released by inactivity_time_out
9	device_address	long_unsigned				--	--	Get,	--			
	Phase Presence		**1**	**0**	**1-0:94.98.14.255**					**×**	**O**	**Optional**

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	Logical_name	Octet_string[6]			"01005E620EFF"	--	--	Get	--			
2	Value	Unsigned			Bit0: phase L1, Bit1:phase L2, Bit2:phase L3	--	--	Get	--			Phase Presence indicator
	Unbalance Load Detection		**1**	**0**	**0-0:94.98.15.255**					**×**	**O**	**Optional**
1	Logical_name	Octet_string[6]			"00005E620FFF"	--	--	Get	--			
2	Value	structure { **long_unsigned:** minimum current that activates unbalance task in meter (Ampere) **long_unsigned:** Unbalance threshold (%) }			{ 1A,50%}	--	--	Get, Set	--			
	SAP Assignment		**17**	**0**	**0-0:41.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000290000FF"	Get	--	Get	(Get)			
2	SAP_assignment_list	asslist_type			{{1, *}}	Get	--	Get	(Get)			One logical device
	Current association		**15**	**1**	**0-0:40.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000280000FF"	Get	--	Get	Get			
2	object_list	object_list_type			List of visible COSEM objects within the given AA	Get	--	Get	Get			
3	associated_partners_id	associated_partners type				Get	--	Get	(Get)			
4	application_context_name	application_context name				Get	--	Get	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
5	xDLMS_context_info	xDLMS_context_type				Get	--	Get	(Get)			
6	authentication_mechanism name	mechanism_name structure			5 :GMAC	Get	--	Get	(Get)			
7	secret	octet_string				--	--	Set	--			LLS and HLS for MD5 SHA1 Optional "Set, in case of using LLS to change the LLS PW.
8	association_status	enum				Get	--	Get	(Get)			
9	security_setup_reference	octet_string[6]			"00002B0000FF"	Get	--	Get	(Get)			
1	reply_to_HLS_authentication					--	--	Action	Action			
	Reading Client association		**15**	**1**	**0-0:40.0.1.255**					**M**	**M**	**For DLMS meters in case of implementing reading client**
1	logical_name	octet_string[6]			"0000280001FF"	(Get)	--	(Get)	Get			
2	object_list	object_list_type				(Get)	--	(Get)	Get			
3	associated_partners_id	associated_partners type				(Get)	--	(Get)	(Get)			
4	application_context_name	application_context name				(Get)	--	(Get)	(Get)			
5	xDLMS_context_info	xDLMS_context_type				(Get)	--	(Get)	(Get)			
6	authentication_mechanism name	mechanism_name structure				(Get)	--	(Get)	(Get)			
7	secret	octet_string				--	--	(Set)	--			LLS and HLS for MD5 SHA1 Optional "Set, in case of using LLS to change the LLS PW.
8	association_status	enum				(Get)	--	(Get)	(Get)			
9	security_setup_reference	octet_string[6]				(Get)	--	(Get)	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	reply_to_HLS_authentication					--	--	(Action)	(Action)			
	Security setup (Management Client/Pre-Established)		**64**	**0**	**0-0:43.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00002B0000FF"	--	--	Get	--			
2	security_policy	Enum			Choice {0,3}	--	--	Get,Set	--			Defult value = 3
3	security_suite	enum				--	--	(Get)	--			0 = AES-GCM-128/AES-128
4	client_system_title	octet_string[8]				--	--	Get	--			
5	server_system_title	octet_string[8]				--	--	Get	--			
1	security_activate	enum				--	--	Action	--			
2	global_key_transfer	key_data				--	--	Action	--			Based on FID 2 specification
	Security setup (Reading Client)		**64**	**0**	**0-0:43.0.2.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00002B0002FF"	--	--	Get	(Get)			
2	security_policy	enum			Choice {0,3}	--	--	Get,Set	(Get)			Defult value = 3
3	security_suite	enum				--	--	(Get)	(Get)			0 = AES-GCM-128/AES-128
4	client_system_title	octet_string[8]				--	--	Get	(Get)			
5	server_system_title	octet_string[8]				--	--	Get	(Get)			
1	security_activate	enum				--	--	Action	--			
2	global_key_transfer	key_data				--	--	Action	--			Based on FID 2 specification
	Security- Receive frame counter - broadcast key		**1**	**0**	**0-0:43.1.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00002B0101FF"	Get	--	Get	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	double_long_unsigned				Get	--	Get	--			
	Security- Receive frame counter - unicast key		**1**	**0**	**0-0:43.1.0.255**					**M**	**M**	This frame counter is used for global key, for dedicated key meter should spport that internally.
1	logical_name	octet_string[6]			"00002B0100FF"	Get	--	Get	--			
2	value	double_long_unsigned				Get	--	Get	--			
	COSEM logical device name		**1**	**0**	**0-0:42.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00002A0000FF"	Get	--	Get	Get			
2	value	octet_string[16]				Get	--	Get	Get			unique identification of the logical device
	Device ID 1 - manufacturing number		**1**	**0**	**0-0:96.1.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600100FF"	Get	--	Get	(Get)			
2	value	octet_string[8]				Get	--	Get	(Get)			E-meter serial number (Serial number of the device, handled by the manufacturer); ASCII coded
	Device ID 4		**1**	**0**	**0-0:96.1.3.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600103FF"	--	--	Get	(Get)			
2	value	octet_string[12..*]			Product date	--	--	Get	(Get)			Date of manufacturer of meter
	Device ID 7 – Tavanir number		**1**	**0**	**1-0:0.0.0.255**					**M**	**M**	
1	Logical_name	octet_string[6]			0100000000FF	Get	--	Get	(Get)			
2	value	octet_string[14]			Manufacturer Code + Meter/DeviceType+	Get	--	Get	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
					Production Year+ Serial number							
	Currently active energy tariff		**1**	**0**	**0-0:96.14.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600E00FF"	--	--	Get	--			
2	value	octet_string[0..8]				--	--	Get	--			
	Default energy tariff in case of invalid clock		**1**	**0**	**0-0:96.14.9.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600E09FF"	--	--	Get	--			
2	value	octet_string[0..8]			{'R1'}	--	Set	Get, Set	--			
	Abstract objects - Time related issues											
	Clock		**8**	**0**	**0-0:1.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000010000FF"	--	--	Get	(Get)			
2	time	octet_string[12]				--	Set	Get, Set	(Get)			Current date and time as local time, With Set deviation=0x8000 and status= 0xFF
3	time_zone	long			-210	--	(Set)	(Get), (Set)	(Get)			
4	status	unsigned				--	--	(Get)	(Get)			
5	daylights_savings_begin	octet_string[12]				--	--	(Get), (Set)	(Get)			2 FARVARDIN, at 02:00
6	daylights_savings_end	octet_string[12]				--	--	(Get), (Set)	(Get)			31 SHAHRIVAR, at 02:00
7	daylights_savings_deviation	integer			60	--	(Set)	(Get), (Set)	(Get)			
8	daylights_savings_enabled	Boolean			1	--	Set	Get, Set	(Get)			
9	clock_base	enum			1	--	--	(Get)	(Get)			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Local Time		**1**	**0**	**1-0:0.9.1.255**					**x**	**M**	
1	logical_name	octet_string[6]			0100000901FF	--	--	--	--			
2	value	octet_string[4]				--	--	--	--			For dispclay and readout purposes, not used for remote communication
	Local Date		**1**	**0**	**1-0:0.9.2.255**					**x**	**M**	
1	logical_name	octet_string[6]			0100000902FF	--	--	--	--			
2	value	octet_string [5]				--	--	--	--			For dispclay and readout purposes, not used for remote communication
	Activity Calendar		**20**	**0**	**0-0:13.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000D0000FF"	--	--	Get	--			
2	calendar_name_active	octet_string[0..8]				--	--	Get	--			The calendar_name_active has a size of 8 characters at least, i.e. [0…8] is mandatory but can be longer
3	season_profile_active	array[0..6]				--	--	Get	--			
4	week_profile_table_active	array [0…8]				--	--	Get	--			
5	day_profile_table_active	array [0…8]				--	--	Get	--			
6	calendar_name_passive	octet_string[0..8]				--	Set	Get, Set	--			The calendar_name_active has a size of 8 characters at least, i.e. [0…8] is mandatory but can be longer
7	season_profile_passive	array[0..6]				--	Set	Get, Set	--			
8	week_profile_table_passive	array [0…8]				--	Set	Get, Set	--			
9	day_profile_table_passive	Array [0…8]				--	Set	Get, Set	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
10	activate_passive_calendar_time	octet_string[12]				--	Set	Get, Set	--			
1	activate_passive_calendar	integer				--	(Action)	(Action)	--			
	active Special Days Table		**11**	**0**	**0-0:11.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000B0000FF"	--	--	Get	--			
2	entries	array[0..16]				--	Set	Get,	--			
								Set				
	Passive Special Days Table		**11**	**0**	**0-0:11.0.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000B0001FF"	--	--	Get	--			
2	entries	array[0..16]				--	Set	Get, Set	--			
	Tariffication script table active		**9**	**0**	**0-0:10.0.100.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000A0064FF"	--	--	Get	--			
2	scripts	scripts			{ {1,{ {1,6,0-0:14.0.1.255,4,"R1"*}, {1,6,0-0:14.0.2.255,4,"R1"*}, {2,70,0-0:96.3.10.255,[1,2],[0] } } }, {2,{	--	--	Get	--			Default Value for 1phase & 3phase meters: array { {1,{1,6, 0-0:14.0.*.255,4,R1}}, {2,{1,6, 0-0:14.0.*.255,4,R2}}, {3,{1,6, 0-0:14.0.*.255,4,R3}} {4,{1,6, 0-0:14.0.*.255,4,R4}}, } For Raily Meters Connect: {1,{1,6, 0-0:14.0.*.255,4,R1}}, {2,{1,6, 0-0:14.0.*.255,4,R2}},

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
					{1,6,0-0:14.0.1.255,4,"R2"*}, {1,6,0-0:14.0.2.255,4,"R2"*}, {2,70,0-0:96.3.10.255,[1,2],[0]} } }, {3,{ {1,6,0-0:14.0.1.255,4,"R3"*}, {1,6,0-0:14.0.2.255,4,"R3"*}, {2,70,0-0:96.3.10.255,[1,2],[0]} } }, {4,{ {1,6,0-0:14.0.1.255,4,"R4"*}, {1,6,0-0:14.0.2.255,4,"R4"*}, {2,70,0-0:96.3.10.255,[1,2],[0]} } } } }							{3,{1,6, 0-0:14.0.*.255,4,R3}}, {4,{1,6, 0-0:14.0.*.255,4,R4}} Disconnect {5,{1,6, 0-0:14.0.*.255,4,R1}}, {6,{1,6, 0-0:14.0.*.255,4,R2}}, {7,{1,6, 0-0:14.0.*.255,4,R3}}, {8,{1,60-0:14.0.*.255,4,R4}}

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	execute	long_unsigned			1	--	--	--	--			
	Register Activation- Energy		6	0	**0-0:14.0.1.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			00000E0001FF	--	--	Get	--			
2	register_assignment	array[24..*]				--	(Set)	Get, (Set)	--			
3	mask_list	array[0..*]				--	Set	Get, Set	--			
4	active_mask	octet_string[0..8]				--	--	Get	--			
	Register Activation- Maximum Demand		6	0	**0-0:14.0.2.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			00000E0002FF	--	--	Get	--			
2	register_assignment	array[24..*]				--	(Set)	Get, (Set)	--			
3	mask_list	array[0..*]				--	Set	Get, Set	--			
4	active_mask	octet_string[0..8]				--	--	Get	--			
	Predefined Scripts - MDI reset / end of billing period		**9**	**0**	**0-0:10.0.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000A0001FF"	--	--	Get	--			
1	execute	long_unsigned			1	--	--	Action	--			MDI reset performed by calling the execute() method with script identifier 1
	End of billing period 1 scheduler		**22**	**0**	**0-0:15.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000F0000FF"	--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
4	execution_time	array[0..1]				--	--	Get, Set	--			at midnight of the any day of every month; the execution can be disabled with writing empty array or {{"FFFFFFFF", "FFFFFFFFFF"}}
	Data of billing period 1		**7**	**1**	**0-0:98.1.0.255**					**M**	**M**	Stored Billing Values Profile
1	logical_name	octet_string[6]			"0000620100FF"	--	--	Get	--			
2	buffer	array				--	--	Get	--			selective access per range
3	capture_objects	array[1..*] (capture_object_definition)			{{8,0-0:1.0.0.255,2,0}, {3,1-0:1.8.0.255,2,0}, {3,1-0:2.8.0.255,2,0}, {3,1-0:3.8.0.255,2,0}, {3,1-0:4.8.0.255,2,0}, {3,1 -0:15.8.0.255,2,0}, {3,1 -0:1.8.1.255,2,0}, {3,1 -0:1.8.2.255,2,0}, {3,1 -0:1.8.3.255,2,0}, {3,1 -0:1.8.4.255,2,0}, {3,1 -0:2.8.1.255,2,0}, {3,1 -0:2.8.2.255,2,0}, {3,1 -0:2.8.3.255,2,0}, {3,1 -0:2.8.4.255,2,0}, {3,1 -0:15.8.1.255,2,0}, {3,1 -0:15.8.2.255,2,0}, {3,1 -0:15.8.3.255,2,0}, {3,1-0:15.8.4.255,2,0}, {4,1-0:15.6.0.255,2,0}, {4,1-0:15.6.0.255,5,0} }	--	--	Get, (Set)	--			clock; A+(T0) A-(T0) R+(T0) R-(T0) |A+|+| A-|(T0) A+(T[1,2,3,4]) A-(T[1,2,3,4]) |A+|+| A-|(T[1,2,3,4]) Maximum demand (value) Maximum demand (time-date)
1	reset	integer				--	--	Action	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Error Register		**1**	**0**	**0-0:97.97.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000616100FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get, Set	(Get)			
	Event Object - Standard Event Log		**1**	**0**	**0-0:96.11.0.255**					O	O	**Optional**
1	logical_name	octet_string[6]			"0000600B00FF"	--	--	Get	--			
2	value	Enum				--	--	Get	--			event number (0 to 255); at first power up or if no events were yet generated the value should return 255
	Event parameter - standard event log		**1**	**0**	**0-0:96.11.10.255**					O	O	**Optional**
1	logical_name	octet_string[6]			"0000600B0AFF"	--	--	Get	--			
2	value	Enum				--	--	Get	--			
	Standard Event Log		**7**	**1**	**0-0:99.98.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000636200FF"	--	--	Get	--			
2	buffer	array				--	--	Get	--			selective access per range
3	capture_objects	array[..]			{ {8,0-0:1.0.0.255,2,0}, {1,0-0:96.11.0.255,2,0}, {1,0-0:96.11.10.255,2,0} }	--	--	(Get)	--			clock; event code, event parameter (Sub-events)
1	reset	integer				--	--	Action	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Event Object - Fraud Detection Log		**1**	**0**	**0-0:96.11.1.255**					O	O	**Optional**
1	logical_name	octet_string[6]			"0000600B01FF"	--	--	Get	--			
2	value	Enum				--	--	Get	--			event number (0 to 255); at first power up or if no events were yet generated the value should return 255
	Fraud Detection Log		**7**	**1**	**0-0:99.98.1.255**					**M**	**M**	Event log containing all fraud detection events
1	logical_name	octet_string[6]			"0000636201FF"	--	--	Get	--			
2	buffer	array[..]				--	--	Get	--			selective access per range
3	capture_objects	array[2](capture_object _definition)			{{8,0-0:1.0.0.255,2,0}, {1,0-0:96.11.1.255,2,0}}	--	--	(Get)	--			clock; (tamper event code)
1	reset	integer				--	--	Action	--			
	Event Object-Communication Log		**1**	**0**	**0-0:96.11.5.255**					O	O	**Optional**
1	logical_name	octet_string[6]			"0000600B05FF"	--	--	Get	--			
2	value	Enum				--	--	Get	--			event number (0 to 255); at first power up or if no events were yet generated the value should return 255
	Communication Log		**7**	**1**	**0-0:99.98.5.255**					O	O	**Optional**
1	logical_name	octet_string[6]			"0000636205FF"	--	--	Get	--			
2	buffer	array				--	--	Get	--			selective access per range

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	capture_objects	array[..]			{{8,0-0:1.0.0.255,2,0}, {1,0 0:96.11.5.255,2,0}}	--	--	(Get)	--			clock; communication event code
1	reset	integer				--	--	Action	---			
	Image transfer		**18**	**0**	**0-0:44.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00002C0000FF"	--	--	Get	--			
2	image_block_size	double_long_unsigned				--	--	Get	--			block size in bytes
3	image_transferred_block_ status	bit_string				--	--	Get	--			
4	image_first not_transferred_block_ number	double_long_unsigned				--	--	Get	--			provides block number of the first missing block
5	image_transfer_enabled	Boolean				--	Set	Get, Set	--			enabled or not; detail information in image_transfer_status FALSE = disabled TRUE = enabled
6	image_transfer status	Enum				--	--	Get	--			detailed status of image transfer process
7	image_to_activate_info	Array				--	--	(Get)	--			
1	image_transfer_initiate	Structure				--	Acti on	Action	--			initiates the transfer process; includes data in format { image_identifier image_size }
2	image_block_transfer	Structure				--	Acti on	Action	--			transfers one single block; includes data in format { image_block_number

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
												image_block_value }
3	image_verify	integer				--	Action	Action	--			
4	image_activate	integer				--	Action	Action	--			
	Image transfer activation scheduler		**22**	**0**	**0-0:15.0.2.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000F0002FF"	--	--	Get	--			
2	executed_script	script22			{0-0:10.0.107.255,1}	--	--	Get	--			activate image
3	type	enum			1	--	--	Get,Set	--			1 is mandatory (Other are optional. If only type 1 is supported Set is optional)
4	execution_time	array[0..1]				--	--	Get, Set	--			the execution can be disabled with writing empty array or {{"FFFFFFFF", "FFFFFFFFFF"}}
	Predefined Scripts - Image activation		**9**	**0**	**0-0:10.0.107.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00000A006BFF"	--	--	Get	--			
2	scripts	scripts				--	--	(Get)	--			
1	execute	long_unsigned			1	--	--	Action	--			
	Active firmware Identifier		**1**	**0**	**1-0:0.2.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100000200FF"	--	--	Get	--			
2	value	octet_string				--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Active firmware signature		**1**	**0**	**1-0:0.2.8.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100000208FF"	--	--	Get	--			
2	value	octet_string				--	--	Get	--			
	Electricity related objects - Totals											
	Active energy import (+A)		**3**	**0**	**1-0:1.8.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100010800FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy export (−A)		**3**	**0**	**1-0:2.8.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100020800FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy Combined total (|+A|+|-A|)		**3**	**0**	**1-0:15.8.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0800FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Reactive energy QI (+Ri)		**3**	**0**	**1-0:5.8.0.255**					O	**M**	
1	logical_name	octet_string[6]			"0100050800FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Reactive energy QII (+Rc)		**3**	**0**	**1-0:6.8.0.255**					O	M	
1	logical_name	octet_string[6]			"0100060800FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	(Get)			
	Reactive energy QIII (-Ri)		**3**	**0**	**1-0:7.8.0.255**					O	M	
1	logical_name	octet_string[6]			"0100070800FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	(Get)			
	Reactive energy QIV (-Rc)		**3**	**0**	**1-0:8.8.0.255**					O	M	
1	logical_name	octet_string[6]			"0100080800FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	(Get)			
	Reactive energy import (+R) (QI+QII)		**3**	**0**	**1-0:3.8.0.255**					M	M	
1	logical_name	octet_string[6]			"0100030800FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	(Get)			
	Reactive energy export (-R) (QIII+QIV)		**3**	**0**	**1-0:4.8.0.255**					M	M	
1	logical_name	octet_string[6]			"0100040800FF"	--	--	Get	(Get*)			*(3 phase)

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	(Get)			
	Should be able to perform at least 4 tariffs.											
	Active energy import (+A) rate 1		**3**	**0**	**1-0:1.8.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100010801FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy import (+A) rate 2		**3**	**0**	**1-0:1.8.2.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100010802FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy import (+A) rate 3		**3**	**0**	**1-0:1.8.3.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100010803FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy import (+A) rate 4		**3**	**0**	**1-0:1.8.4.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100010804FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy export (-A) rate 1		**3**	**0**	**1-0:2.8.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100020801FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy export (-A) rate 2		**3**	**0**	**1-0:2.8.2.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100020802FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy export (-A) rate 3		**3**	**0**	**1-0:2.8.3.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100020803FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy export (-A) rate 4		**3**	**0**	**1-0:2.8.4.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100020804FF"	--	--	Get	(Get*)			*(3 phase)
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Reactive energy (+R) rate 1		**3**	**0**	**1-0:3.8.1.255**					**O**	**M**	

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	logical_name	octet_string[6]			"0100030801FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Reactive energy (+R) rate 2		**3**	**0**	**1-0:3.8.2.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100030802FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Reactive energy (+R) rate 3		**3**	**0**	**1-0:3.8.3.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100030803FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Reactive energy (+R) rate 4		**3**	**0**	**1-0:3.8.4.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100030804FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Reactive energy (-R) rate 1		**3**	**0**	**1-0:4.8.1.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100040801FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Reactive energy (-R) rate 2		**3**	**0**	**1-0:4.8.2.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100040802FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Reactive energy (-R) rate 3		**3**	**0**	**1-0:4.8.3.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100040803FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Reactive energy (-R) rate 4		**3**	**0**	**1-0:4.8.4.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100040804FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Active energy Combined total (|+A|+|-A|) rate 1		**3**	**0**	**1-0:15.8.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0801FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy Combined total (|+A|+|-A|) rate 2		**3**	**0**	**1-0:15.8.2.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0802FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy Combined total (|+A|+|-A|) rate 3		**3**	**0**	**1-0:15.8.3.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0803FF"	--	--	Get	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Active energy Combined total (|+A|+|-A|) rate 4		**3**	**0**	**1-0:15.8.4.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0804FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	(Get)			
	Maximum Demand Register 1 - Active energy import (+A)		**4**	**0**	**1-0:1.6.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100010600FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	(Get)			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	(Get)			
	Maximum Demand Register 6 - Active energy export (-A)		**4**	**0**	**1-0:2.6.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100020600FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	(Get)			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	(Get)			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Maximum Demand Register 11 - Reactive energy import (+R)		**4**	**0**	**1-0:3.6.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100030600FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	(Get)			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	(Get)			
	Maximum Demand Register 16 – Reactive energy export (-R)		**4**	**0**	**1-0:4.6.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100040600FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	(Get)			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	(Get)			
	Maximum Demand Register 31 - Active energy combined (|+A|+|-A|)		**4**	**0**	**1-0:15.6.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0600FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	(Get)			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Maximum Demand Register 32 - Active energy combined (|+A|+|-A|) - rate 1		**4**	**0**	**1-0:15.6.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0601FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	--			
	Maximum Demand Register 33 - Active energy combined (|+A|+|-A|) - rate 2		**4**	**0**	**1-0:15.6.2.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0602FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	--			
	Maximum Demand Register 34 - Active energy combined (|+A|+|-A|) - rate 3		**4**	**0**	**1-0:15.6.3.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0603FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Maximum Demand Register 35 - Active energy combined (|+A|+|-A|) - rate 4		**4**	**0**	**1-0:15.6.4.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0604FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	--			
	Maximum Demand Register 36 - Active energy combined total (|+A|+|-A|) – (recording interval 2)		**4**	**0**	**1-0:15.54.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F3600FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
4	status	unsigned				--	--	--	--			
5	capture_time	octet_string				--	--	Get	--			
	Demand Register 5-Active energy Combined total (|+A|+|-A|)		**5**	**0**	**1-0:15.4.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			01000F0400FF	--	--	Get	--			
2	current_average_value	double_long_unsigned				--	--	Get	--			
3	last_average_value	double_long_unsigned				--	--	Get	--			Att. 3 is captured in Load Profile 1

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
4	scaler_unit	scal_unit_type			{0,27}	--	--	Get	--			
	Profile status - Load profile with period 1		**1**	**0**	**0-0:96.10.1.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600A01FF"	--	--	Get	--			
2	status	Unsigned				--	--	Get	--			bitmask :: {PDN,reserved,CAD,reserved,DST,DNV,CIV,ERR}
	Load profile with period 1 (i.e. *General Load Profile*)		**7**	**1**	**1-0:99.1.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100630100FF"	--	--	Get	--			
2	buffer	array				--	--	Get	--			selective access by range is mandatory and by entry is optional
3	capture_objects	Array[2…*](capture_object_definition)			{ {8,0-0:1.0.0.255,2,0}, {1,0-0:96.10.1.255,2,0}, {3,1-0:1.29.0.255,2,0}, {3,1-0:2.29.0.255,2,0}, {5,1-0:15.4.0.255,3,0}, {3,1-0:32.25.0.255,2,0}, {3,1-0:32.226.0.255,2,0}, {3,1-0:32.223.0.255,2,0}, {3,1-0:31.25.0.255,2,0}, {3,1-0:13.25.0.255,2,0}, } For 3 phase meter:	--	--	Get	--			For 1Phase meter (8 object) clock, profile status; Interval value(A+ , A-) maximum demand @interval Average voltage L1 Maximum voltage L1 Minimum voltage L1 Average current L1 Average Power Factor -L1 For Three Phase meter (5 object) clock, profile status; Interval value(A+ , A-, R+, R-) maximum demand @interval

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
					{ {8,0-0:1.0.0.255,2,0}, {1,0-0:96.10.1.255,2,0}, {3,1-0:1.29.0.255,2,0}, {3,1-0:2.29.0.255,2,0}, {3,1-0:3.29.0.255,2,0}, {3,1-0:4.29.0.255,2,0}, {5,1-0:15.4.0.255,3,0}, }							
4	capture_period	double_long_unsigned			choice(60, 900, 1800, 3600,7200,10800)	--	--	Get, Set	--	60		15 minutes
8	profile_entries	double_long_unsigned				--	--	(Get)	--			
1	reset					--	--	Action	--			
	Profile status 2 - Load profile with period 2/ Daily		**1**	**0**	**0-0:96.10.2.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600A02FF"	--	--	Get	--			
2	status	Unsigned				--	--	Get	--			bitmask :: {PDN,reserved,CAD,reserved,DST,DNV,CIV,ERR}
	Load profile with period 2 (i.e. *Daily Values Profile*)		**7**	**1**	**1-0:99.2.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100630200FF"	--	--	Get	--			
2	buffer	array				--	--	Get	--			selective access by range is mandatory and by entry is optional
3	capture_objects	array([2…*](capture object_definition)			{ {8,0-0:1.0.0.255,2,0},	--	--	Get	--			clock; profile status, |A+|+| A-|(T0) |A+|+| A-|(T[1,2,3,4])

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
					{1,0-0:96.10.2.255,2,0}, {3,1-0:15.8.0.255,2,0}, {3,1-0:15.8.1.255,2,0}, {3,1-0:15.8.2.255,2,0}, {3,1-0:15.8.3.255,2,0}, {3,1-0:15.8.4.255,2,0}, {3,1-0:3.8.0.255,2,0}, {3,1-0:4.8.0.255,2,0}, {4,1-0:15.54.0.255,2,0}, {4,1-0:15.54.0.255,5,0}, {1,0-0:97.97.0.255,2,0}, }							Maximum Demand Register (value) Error register R+ R- Note : R+ & R- registers just recorded for 3 phase meter .
4	capture_period	double_long_unsigned			86400	--	--	(Get)	--			daily
8	profile_entries	double_long_unsigned			[31..*]	--	--	(Get)	--			
1	reset					--	--	Action	--			
	Profile status 3 - Load profile 3		**1**	**0**	**0-0:96.10.10.255**					✘	**M**	
1	logical_name	octet_string[6]			"0000600A0AFF"	--	--	Get	--			
2	status	Unsigned				--	--	Get	--			bitmask :: {PDN,reserved,CAD,reserved,DST,DNV,CIV,ERR}
	Load profile with period 3		**7**	**1**	**1-0:99.133.0.255**					✘	**M**	
1	logical_name	octet_string[6]			"0100638500FF"	--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	Buffer	array				--	--	Get	--			selective access by range is mandatory and by entry is optional
3	capture_objects	array([2-11](capture_object_definition)			{ {8,0-0:1.0.0.255,2,0}, {1,0-0:96.10.10.255,2,0}, {3,1-0:32.25.0.255,2,0}, {3,1-0:32.226.0.255,2,0}, {3,1-0:32.223.0.255,2,0}, {3,1-0:52.25.0.255,2,0}, {3,1-0:52.226.0.255,2,0}, {3,1-0:52.223.0.255,2,0}, {3,1-0:72.25.0.255,2,0}, {3,1-0:72.226.0.255,2,0}, {3,1-0:72.223.0.255,2,0}, {3,1-0:31.25.0.255,2,0}, {3,1-0:31.226.0.255,2,0}, {3,1-0:31.223.0.255,2,0}, {3,1-0:51.25.0.255,2,0}, {3,1-0:51.226.0.255,2,0}, {3,1-0:51.223.0.255,2,0}, {3,1-0:71.25.0.255,2,0},	--	--	Get, Set	--			clock; profile status, Average voltage L1 Maximum voltage L1 Minimum voltage L1 Average voltage L2 Maximum voltage L2 Minimum voltage L2 Average voltage L3 Maximum voltage L3 Minimum voltage L3 Average current L1 Maximum current L1 Minimum current L1 Average current L2 Maximum current L2 Minimum current L2 Average current L3 Maximum current L3 Minimum current L3 Average Power Factor L1 Maximum Power Factor L1 Minimum c Power Factor L1 Average Power Factor L2 Maximum Power Factor L2 Minimum c Power Factor L2 Average Power Factor L3 Maximum Power Factor L3 Minimum c Power Factor L3 Power factor total

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
					{3,1-0:71.226.0.255,2,0}, {3,1-0:71.223.0.255,2,0}, 3,1-0:33.25.0.255,2,0}, {3,1-0:33.226.0.255,2,0}, {3,1-0:33.223.0.255,2,0}, {3,1-0:53.25.0.255,2,0}, {3,1-0:53.226.0.255,2,0}, {3,1-0:53.223.0.255,2,0}, {3,1-0:73.25.0.255,2,0}, {3,1-0:73.226.0.255,2,0}, {3,1-0:73.223.0.255,2,0}, {3,1-0:13.25.0.255,2,0}, {3,1-0:1.25.0.255,2,0}, {3,1-0:2.25.0.255,2,0}, {3,1-0:3.25.0.255,2,0}, {3,1-0:4.25.0.255,2,0}, {3,1-0:1.223.0.255,2,0}, {3,1-0:2.223.0.255,2,0}, {3,1-0:3.223.0.255,2,0}, {3,1-0:4.223.0.255,2,0}, {3,1-0:1.226.0.255,2,0}, {3,1-0:2.226.0.255,2,0}, {3,1-0:3.226.0.255,2,0}, {3,1-0:4.226.0.255,2,0}, }							

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
4	capture_period	double_long_unsigned			choice(60, 900, 1800, 3600,7200,10800)	--	--	Get, Set	--			15 minutes
8	profile_entries	double_long_unsigned			[31..*]	--	--	Get	--			
1	reset					--	--	Action	--			
	Number of long power failures phase L1		**1**	**0**	**0-0:96.7.6.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			“0000600706FF”	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of long power failures phase L2		**1**	**0**	**0-0:96.7.7.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			“0000600707FF”	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of long power failures phase L3		**1**	**0**	**0-0:96.7.8.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			“0000600708FF”	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of long power failures in any phase		**1**	**0**	**0-0:96.7.9.255**					**M**	**M**	
1	logical_name	octet_string[6]			“0000600709FF”	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of power failures in all phases		**1**	**0**	**0-0:96.7.0.255**					**M**	**M**	

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	logical_name	octet_string[6]			"0000600700FF"	--	--	Get	(Get)			
2	value	long_unsigned				--	--	Get	(Get)			
	Number of power failures phase L1		**1**	**0**	**0-0:96.7.1.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600701FF"	--	--	Get	(Get)			
2	value	long_unsigned				--	--	Get	(Get)			
	Number of power failures phase L2		**1**	**0**	**0-0:96.7.2.255**					**✗**	**M**	
1	logical_name	octet_string[6]			"0000600702FF"	--	--	Get	(Get)			
2	value	long_unsigned				--	--	Get	(Get)			
	Number of power failures phase L3		**1**	**0**	**0-0:96.7.3.255**					**✗**	**M**	
1	logical_name	octet_string[6]			"0000600703FF"	--	--	Get	(Get)			
2	value	long_unsigned				--	--	Get	(Get)			
	Time threshold for long power failure		**3**	**0**	**0-0:96.7.20.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600714FF"	--	--	Get	--			
2	value	long_unsigned			180	--	Set	Get, Set	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last long power failure in all phases		**3**	**0**	**0-0:96.7.15.255**					**O**	**O**	**Optional**

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	logical_name	octet_string[6]			"000060070FFF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last long power failure in phase L1		**3**	**0**	**0-0:96.7.16.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600710FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last long power failure in phase L2		**3**	**0**	**0-0:96.7.17.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600711FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last long power failure in phase L3		**3**	**0**	**0-0:96.7.18.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600712FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last long power failure in any phase		**3**	**0**	**0-0:96.7.19.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600713FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Threshold for voltage sag		**3**	**0**	**1-0:12.31.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			“01000C1F00FF”	--	--	Get	--			
2	value	long_unsigned			Less than 20% VREF= 184	--	Set	Get, Set	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Time threshold for voltage sag		**3**	**0**	**1-0:12.43.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"01000C2B00FF"	--	--	Get	--			
2	value	long_unsigned			180	--	Set	Get, Set	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Number of voltage sags in phase L1		**1**	**0**	**1-0:32.32.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100202000FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of voltage sags in phase L2		**1**	**0**	**1-0:52.32.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100342000FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of voltage sags in phase L3		**1**	**0**	**1-0:72.32.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100482000FF"	--	--	Get	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	long_unsigned				--	--	Get	--			
	Duration of last voltage sag in phase L1		**3**	**0**	**1-0:32.33.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100202100FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last voltage sag in phase L2		**3**	**0**	**1-0:52.33.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100342100FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last voltage sag in phase L3		**3**	**0**	**1-0:72.33.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100482100FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Magnitude of last voltage sag in phase L1		**3**	**0**	**1-0:32.34.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100202200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Magnitude of last voltage sag in phase L2		**3**	**0**	**1-0:52.34.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100342200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Magnitude of last voltage sag in phase L3		**3**	**0**	**1-0:72.34.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100482200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Threshold for voltage swell		**3**	**0**	**1-0:12.35.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"01000C2300FF"	--	--	Get	--			
2	value	long_unsigned			more than 15% VREF= 264.5	--	Set	Get, Set	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Time threshold for voltage swell		**3**	**0**	**1-0:12.44.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"01000C2C00FF"	--	--	Get	--			
2	value	long_unsigned			180	--	Set	Get, Set	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Number of voltage swells in phase L1		**1**	**0**	**1-0:32.36.0.255**					**O**	**O**	**Optional**

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	logical_name	octet_string[6]			"0100202400FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of voltage swells in phase L2		**1**	**0**	**1-0:52.36.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100342400FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Number of voltage swells in phase L3		**1**	**0**	**1-0:72.36.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100482400FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
	Duration of last voltage swell in phase L1		**3**	**0**	**1-0:32.37.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100202500FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last voltage swell in phase L2		**3**	**0**	**1-0:52.37.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100342500FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Duration of last voltage swell in phase L3		**3**	**0**	**1-0:72.37.0.255**					**×**	**O**	**Optional**

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	logical_name	octet_string[6]			"0100482500FF"	--	--	Get	--			
2	value	Double-long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Magnitude of last voltage swell in phase L1		**3**	**0**	**1-0:32.38.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100202600FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Magnitude of last voltage swell in phase L2		**3**	**0**	**1-0:52.38.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100342600FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Magnitude of last voltage swell in phase L3		**3**	**0**	**1-0:72.38.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100482600FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Threshold for missing voltage (voltage cut)		**3**	**0**	**1-0:12.39.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"01000C2700FF"	--	--	Get	--			
2	value	long_unsigned			150	--	Set	Get, Set	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	scaler_unit	scal_unit_type			{0,35}	--	--	(Get)	--			
	Time threshold for voltage cut		**3**	**0**	**1-0:12.45.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"01000C2D00FF"	--	--	Get	--			
2	value	long_unsigned			30	--	Set	Get, Set	--			
3	scaler_unit	scal_unit_type			{0,7}	--	--	(Get)	--			
	Event object power failure log		**1**	**0**	**0-0:96.11.6.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600B06FF"	--	--	Get	--			
2	value	Enum				--	--	Get	--			Event number (0 to 255); at first power up or if no events were yet generated th value should return 255.
	Power Failure Event Log		**7**	**1**	**1-0:99.97.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100636100FF"	--	--	Get	--			
2	buffer	array				--	--	Get	--			selective access per range
3	capture_objects	array[2]			{{8,0-0:1.0.0.255,2,0}, {1,0-0:96.11.6.255,2,0}, {3,0-0:96.7.19.255,2,0}}	--	--	Get, (Set)	--			clock; event code, duration of long power failures in any phase
4	profile_entries	double_long_unsigned			[50..*]	--	--	---	--			
1	reset	integer				--	--	Action	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Event Object - Power Quality Log		**1**	**0**	**0-0:96.11.4.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600B04FF"	--	--	Get	--			
2	value	Enum				--	--	Get	--			event number (0 to 255); at first power up or if no events were yet generated the value should return 255
	Event Parameter 1 Magnitude - Power Quality Log		**1**	**0**	**0-0:96.11.11.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600B0BFF"	--	--	Get	--			
2	value	Long_unsigned				--	--	Get	--			Magnitude of Power Quality Event
	Event Parameter 2 Duration - Power Quality Log		**1**	**0**	**0-0:96.11.12.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0000600B0CFF"	--	--	Get	--			
2	value	Double_long_unsigned				--	--	Get	--			Duration at the end of event is recorded
	Power Quality Log		**7**	**1**	**0-0:99.98.4.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000636204FF"	--	--	Get	--			
2	buffer	array				--	--	Get	--			selective access per range
3	capture_objects	array[2..4](capture_object_definition)			{ {8,0-0:1.0.0.255,2,0}, {1,0-0:96.11.4.255,2,0}, {1,0-0:96.11.11.255,2,0}	--	--	(Get)	--			clock; event code, magnitude, duration are required if **0-0:96.11.11.255 , 0-0:96.11.12.255 are recorded**

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
					{1,0-0:96.11.12.255,2,0}}							
4	profile_entries	double_long_unsigned			[50..*]	--	--	--	--			
1	reset					--	--	Action	--			
	Instantaneous current L0 (neutral)		**3**	**0**	**1-0:91.7.0.255**					**O**	**×**	**Optional**
1	Logical_name	Octet_string			01005B0700FF	--	--	Get	--			
2	Value	Long_unsigned				--	--	Get	--			
3	Scaler_unit	Scal_unit_type			{-2,33}	--	--	(Get)	--			scaler=-2, unit=A, resolution: 0.00 A
	Electricity related objects -Instantaneous and Average values											
	Instantaneous voltage L1		**3**	**0**	**1-0:32.7.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100200700FF"	--	--	Get	(Get)			
2	value	long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	(Get)			scalar=0,-1, unit=V resolution: 0 or 0.0 V
	Average voltage L1		**3**	**0**	**1-0:32.24.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100201800FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			10 minutes average voltage
3	scaler_unit	scal_unit_type			{-1,35})	--	--	(Get)	--			scalar=0,-1, unit=V resolution: 0 or 0.0 V
	Instantaneous current L1		**3**	**0**	**1-0:31.7.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01001F0700FF"	--	--	Get	(Get)			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{-2,33})	--	--	(Get)	(Get)			
	Sliding Average current L1 (for fuse supervision)		**5**	**0**	1-0:31.4.0.255					**M**	**✘**	
1	logical_name	octet_string[6]			01001F0400FF	--	--	Get	--			
2	current_average_value	double_long_unsigned				--	--	Get	--			
3	last_average_value	double_long_unsigned				--	--	Get	--			
4	scaler_unit	scal_unit_type			{-2,33}	--	--	Get	--			
5	status	unsigned			0	--	--	(Get)	--			
6	capture_time	octet_string				--	--	(Get)	--			
7	start_time_current	octet_string				--	--	(Get)	--			
8	period	double_long_unsigned			1	--	--	Get	--			
9	number_of_periods	long_unsigned			[1...90]	--	--	Get, Set	--			Defult=90
	Instantaneous power factor L1		**3**	**0**	**1-0:33.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100210700FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			scalar=-3, unit=none resolution: 0.000
	Instantaneous active import power (+A) phase L1		**3**	**0**	**1-0:21.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100150700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{ {0,27}	--	--	(Get)	--			resolution: 0 for other types

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Instantaneous active export power (-A) phase L1		**3**	**0**	**1-0:22.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100160700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			resolution: 0 for other types
	Instantaneous reactive import power (+R) phase L1		**3**	**0**	**1-0:23.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100170700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			resolution: 0 for other types
	Instantaneous reactive export power (-R) phase L1		**3**	**0**	**1-0:24.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100180700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			resolution: 0 for other types
	Phase Angle from IL1 to UL1		**3**	**0**	**1-0:81.7.4.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100510704FF"	--	--	Get	(Get)			
2	value	long_signed				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,8}	--	--	(Get)	(Get)			scalar=0, unit=degree resolution: 0 degree
	Instantaneous voltage L2		**3**	**0**	**1-0:52.7.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100340700FF"	--	--	Get	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	(Get)			scalar=0,-1, unit=V resolution: 0 or 0.0 V
	Average voltage L2		**3**	**0**	**1-0:52.24.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100341800FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			10 minutes average voltage
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			scalar=-1, unit=V resolution: 0.0 V
	Instantaneous current L2		**3**	**0**	**1-0:51.7.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100330700FF"	--	--	Get	(Get)			
2	value	long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	(Get)			scalar=,-2 unit=A resolution: 0.00A
	Instantaneous power factor L2		**3**	**0**	**1-0:53.7.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100350700FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			scalar=-3, unit=none resolution: 0.000
	Instantaneous active import power (+A) phase L2		**3**	**0**	**1-0:41.7.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100290700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Instantaneous active export power (-A) phase L2		**3**	**0**	**1-0:42.7.0.255**					✘	**M**	
1	logical_name	octet_string[6]			"01002A0700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0
	Instantaneous reactive import power (+R) phase L2		**3**	**0**	**1-0:43.7.0.255**					✘	**M**	
1	logical_name	octet_string[6]			"01002B0700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0
	Instantaneous reactive export power (-R) phase L2		**3**	**0**	**1-0:44.7.0.255**					✘	**M**	
1	logical_name	octet_string[6]			"01002C0700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0
	Phase from IL2 to UL2		**3**	**0**	**1-0:81.7.15.255**					✘	**M**	
1	logical_name	octet_string[6]			"010051070FFF"	--	--	Get	(Get)			
2	value	long_signed				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,8}	--	--	(Get)	(Get)			scalar=0, unit=degree resolution: 0 degree
	Instantaneous voltage L3		**3**	**0**	**1-0:72.7.0.255**					✘	**M**	
1	logical_name	octet_string[6]			"0100480700FF"	--	--	Get	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	(Get)			scalar=0,-1, unit=V resolution: 0 or 0.0 V
	Average voltage L3		**3**	**0**	**1-0:72.24.0.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100481800FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			10 minutes average voltage
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			scalar=0,-1, unit=V resolution: 0 or 0.0 V
	Instantaneous current L3		**3**	**0**	**1-0:71.7.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100470700FF"	--	--	Get	(Get)			
2	value	long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	(Get)			
	Instantaneous power factor L3		**3**	**0**	**1-0:73.7.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100490700FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			scalar=-3, unit=none resolution: 0.000
	Instantaneous active import power (+A) phase L3		**3**	**0**	**1-0:61.7.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"01003D0700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0
	Instantaneous active export power (-A) phase L3		**3**	**0**	**1-0:62.7.0.255**					**✘**	**M**	
1	logical_name	octet_string[6]			"01003E0700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0
	Instantaneous reactive import power (+R) phase L3		**3**	**0**	**1-0:63.7.0.255**					**✘**	**M**	
1	logical_name	octet_string[6]			"01003F0700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0
	Instantaneous reactive export power (-R) phase L3		**3**	**0**	**1-0:64.7.0.255**					**✘**	**M**	
1	logical_name	octet_string[6]			"0100400700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0
	Phase Angle from IL3 to UL3		**3**	**0**	**1-0:81.7.26.255**					**✘**	**M**	
1	logical_name	octet_string[6]			"010051071AFF"	--	--	Get	(Get)			
2	value	long_signed				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type			{0,8}	--	--	(Get)	(Get)			scalar=0, unit=degree resolution: 0 degree

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Instantaneous current (sum over all phases)		**3**	**0**	**1-0:90.7.0.255**					**×**	**M**	**total current (sum of all phases)**
1	logical_name	octet_string[6]			"01005A0700FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			Total current (sum of all phases)
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			scalar=-2 unit=A0.00A
	Instantaneous net frequency; any phase		**3**	**0**	**1-0:14.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"01000E0700FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,44}	--	--	(Get)	--			scalar= -2, unit=Hz resolution: 0.00 Hz
	Instantaneous active power (|+A|+|-A|)		**3**	**0**	**1-0:15.7.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000F0700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			sum of all phases: |QI+QIV|+|QII+QIII|
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
	Instantaneous active import power (+A)		**3**	**0**	**1-0:1.7.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100010700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
	Instantaneous active export power (-A)		**3**	**0**	**1-0:2.7.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100020700FF"	--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
	Instantaneous reactive import power (+R)		**3**	**0**	**1-0:3.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100030700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			
	Instantaneous reactive export power (-R)		**3**	**0**	**1-0:4.7.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100040700FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			
	Instantaneous Power factor (+A/+VA)		**3**	**0**	**1-0:13.7.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000D0700FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			Resolution: 0.000
	Average Import Power (+A)		**5**	**0**	**1-0:15.24.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			01000F1800FF			Get	--			
2	current_average_value	double_long_unsigned						Get	--			
3	last_average_value	double_long_unsigned						Get	--			
4	scaler_unit	scal_unit_type			{0,27}			Get	--			
5	status	unsigned			0			(Get)	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
6	capture_time	octet_string						(Get)	--			
7	start_time_current	octet_string						(Get)	--			
8	period	double_long_unsigned			60			Get	--			
9	number_of_periods	long_unsigned			15			Get, Set	--			
	Imported Active energy interval value(+A [interval])		**3**	**0**	**1-0:1.29.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100011D00FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	--			
	Exported Active energy interval value(-A [interval])		**3**	**0**	**1-0:2.29.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100021D00FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,30}	--	--	(Get)	--			
	Imported Reactive energy interval value(+R [interval])		**3**	**0**	**1-0:3.29.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100031D00FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Exported Reactive energy interval value (-R [interval])		**3**	**0**	**1-0:4.29.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100041D00FF"	--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,32}	--	--	(Get)	--			
	Last average value of voltage phase L1		**3**	**0**	**1-0:32.25.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0100201900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler=-1, unit=V, resolution:0.0v
	Last average value of voltage phase L2		**3**	**0**	**1-0:52.25.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100341900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler=-1, unit=V, resolution:0.0v
	Last average value of voltage phase L3		**3**	**0**	**1-0:72.25.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100481900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler=-1, unit=V, resolution:0.0v
	Last average value of current phase L1		**3**	**0**	**1-0:31.25.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01001F1900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler=-2, unit=A, resolution:0.00 A

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Last average value of current phase L2		**3**	**0**	**1-0:51.25.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100331900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler=-2, unit=A, resolution:0.00 A
	Last average value of current phase L3		**3**	**0**	**1-0:71.25.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100471900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler=-2, unit=A, resolution:0.00 A
	Last average value of power factor phase L1		**3**	**0**	**1-0:33.25.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100211900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			
	Last average value of power factor phase L2		**3**	**0**	**1-0:53.25.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100351900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			
	Last average value of power factor phase L3		**3**	**0**	**1-0:73.25.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"0100491900FF"	--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			
	Last average value of power factor		**3**	**0**	**1-0:13.25.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"01000D1900FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			Resolution:0.000
	Last average value of +active power		**3**	**0**	**1-0:1.25.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100011900FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0
	Last average value of -active power		**3**	**0**	**1-0:2.25.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100021900FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0
	Last average value of +reactive power		**3**	**0**	**1-0:3.25.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100031900FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Last average value of - reactive power		**3**	**0**	**1-0:4.25.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"0100041900FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0
	Last maximum value of voltage phase L1		**3**	**0**	**1-0:32.226.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"010020E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler= -1, unit= V resolution: 0.0 V
	Last maximum value of voltage phase L2		**3**	**0**	**1-0:52.226.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010034E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler= -1, unit= V resolution: 0.0 V
	Last maximum value of voltage phase L3		**3**	**0**	**1-0:72.226.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010048E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler= -1, unit= V resolution: 0.0 V
	Last maximum value of current phase L1		**3**	**0**	**1-0:31.226.0.255**					**O**	**M**	

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	logical_name	octet_string[6]			"01001FE200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler= -2, unit= A resolution: 0.00 A
	Last maximum value of current phase L2		**3**	**0**	**1-0:51.226.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010033E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler= -2, unit= A resolution: 0.00 A
	Last maximum value of current phase L3		**3**	**0**	**1-0:71.226.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010047E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler= -2, unit= A resolution: 0.00 A
	Last maximum value of power factor phase L1		**3**	**0**	**1-0:33.226.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010021E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			resolution: 0.000
	Last maximum value of power factor phase L2		**3**	**0**	**1-0:53.226.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010035E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			resolution: 0.000

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Last maximum value of power factor phase L3		**3**	**0**	**1-0:73.226.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010049E200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			resolution: 0.000
	Last maximum value of power factor		**3**	**0**	**1-0:13.226.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"01000DE200FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			resolution: 0.000
	Last maximum value of +active power		**3**	**0**	**1-0:1.226.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010001E200FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
	Last maximum value of -active power		**3**	**0**	**1-0:2.226.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010002E200FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
	Last maximum value of +reactive power		**3**	**0**	**1-0:3.226.0.255**					**O**	**M**	

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
1	logical_name	octet_string[6]			"010003E200FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			
	Last maximum value of - reactive power		**3**	**0**	**1-0:4.226.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010004E200FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			
	Last minimum value of voltage phase L1		**3**	**0**	**1-0:32.223.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"010020DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler= -1, unit= V resolution 0.0 V
	Last minimum value of voltage phase L2		**3**	**0**	**1-0:52.223.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010034DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler= -1, unit= V resolution 0.0 V
	Last minimum value of voltage phase L3		**3**	**0**	**1-0:72.223.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010048DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	scaler_unit	scal_unit_type			{-1,35}	--	--	(Get)	--			Scaler= -1, unit= V resolution 0.0 V
	Last minimum value of current phase L1		**3**	**0**	**1-0:31.223.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"01001FDF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler= -2, unit= A resolution: = 0.00 A
	Last minimum value of current phase L2		**3**	**0**	**1-0:51.223.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010033DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler= -2, unit= A resolution: 0.00 A
	Last minimum value of current phase L3		**3**	**0**	**1-0:71.223.0.255**					**×**	**M**	
1	logical_name	octet_string[6]			"010047DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-2,33}	--	--	(Get)	--			Scaler= -2, unit= A resolution: 0.00 A
	Last minimum value of power factor phase L1		**3**	**0**	**1-0:33.223.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010021DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Last minimum value of power factor phase L2		**3**	**0**	**1-0:53.223.0.255**					**✗**	**M**	
1	logical_name	octet_string[6]			"010035DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			
	Last minimum value of power factor phase L3		**3**	**0**	**1-0:73.223.0.255**					**✗**	**M**	
1	logical_name	octet_string[6]			"010049DF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			
	Last minimum value of power factor		**3**	**0**	**1-0:13.223.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"01000DDF00FF"	--	--	Get	--			
2	value	long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{-3,255}	--	--	(Get)	--			Resolution: 0.000
	Last minimum value of +active		**3**	**0**	**1-0:1.223.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010001DF00FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0
	Last minimum value of -active power		**3**	**0**	**1-0:2.223.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010002DF00FF"	--	--	Get	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			Resolution: 0
	Last minimum value of +reactive power		**3**	**0**	**1-0:3.223.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010003DF00FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0
	Last minimum value of -reactive power		**3**	**0**	**1-0:4.223.0.255**					**O**	**M**	
1	logical_name	octet_string[6]			"010004DF00FF"	--	--	Get	--			
2	value	double_long_unsigned				--	--	Get	--			
3	scaler_unit	scal_unit_type			{0,29}	--	--	(Get)	--			Resolution: 0
	Active Quadrant		**1**	**0**	**1-0:94.98.10.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"01005E620AFF"	--	--	Get	--			
2	value	Unsigned			0,1,2,3,4	--	--	Get	--			0=creep or no quadrant detected 1,2,3,4=Active quadrant(QI,QII,QIII,QIV)
	Active Quadrant L1		**1**	**0**	**1-0:94.98.11.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"01005E620BFF"	--	--	Get	--			
2	value	Unsigned			0,1,2,3,4 0=creep or no quadrant detected 1,2,3,4=Active quadrant(QI,QII,QIII,QIV)	--	--	Get	--			0=creep or no quadrant detected 1,2,3,4=Active quadrant(QI,QII,QIII,QIV) Active power quadrant indicator

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Active Quadrant L2		**1**	**0**	**1-0:94.98.12.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"01005E620CFF"	--	--	Get	--			
2	value	Unsigned			0,1,2,3,4 0=creep or no quadrant detected 1,2,3,4=Active quadrant(QI,QII,QIII,QIV)	--	--	Get	--			0=creep or no quadrant detected 1,2,3,4=Active quadrant(QI,QII,QIII,QIV) Active power quadrant indicator
	Active Quadrant L3		**1**	**0**	**1-0:94.98.13.255**					**×**	**O**	**Optional**
1	logical_name	octet_string[6]			"01005E620DFF"	--	--	Get	--			
2	value	Unsigned			0,1,2,3,4 0=creep or no quadrant detected 1,2,3,4=Active quadrant(QI,QII,QIII,QIV)	--	--	Get	--			0=creep or no quadrant detected 1,2,3,4=Active quadrant(QI,QII,QIII,QIV) Active power quadrant indicator
	Disable/Enable Manual Demand Reset		**1**	**0**	**0-0:94.98.27.255**					**×**	**M**	
1	logical_name	octet_string[6]			"00005E621BFF"	--	--	Get	--			
2	value	Unsigned			0,1	--	set	Get,Set	--			Manual Demand Reset button 0=disable,1=Enable
	Profile compression type		**1**	**0**	**0-0:94.98.21.255**					**M**	**M**	
1	logical_name	octet_string[6]			"00005E6215FF"	--	--	Get	--			
2	value	Long_unsigned				--	--	Get, (set)	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Number of strong magnetic field detections		**1**	**0**	**0-0:96.20.15.255**					**M**	**M**	
1	logical_name	octet_string[6]			"000060140FFF"	--	--	Get	(Get)			
2	value	Long_Unsigned				--	--	Get	(Get)			
	Number of change on meter setting	**125**	**1**	**0**	**0-0:96.2.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000600200FF"	--	--	Get	(Get)			
2	value	Long_unsigned				--	--	Get	(Get)			
	Number of Terminal Cover Removal		**1**	**0**	**0-0:96.20.5.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000601405FF"	--	--	Get	(Get)			
2	value	Long_unsigned				--	--	Get	(Get)			
	Date of last Terminal Cover Removal		**1**	**0**	**0-0:96.20.6.255**					**M**	**M**	
1	logical_name	octet_string[6]			"0000601406FF"	--	--	Get	(Get)			
2	value	octet_string[12..*]				--	--	Get	(Get)			
	Duration of violation of Demand		**1**	**0**	**1-0:1.37.0.255**					**O**	**M**	Default value is second
1	logical_name	octet_string[6]			"0100012500FF"	--	--	Get	(Get)			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
2	value	double_long_unsigned				--	--	Get	(Get)			
	Duration of violation of Demand last period		**1**	**0**	**1-0:94.98.30.101**					**O**	**M**	Default value is second
1	logical_name	octet_string[6]			"01005E621E65"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
	Maximum allowed Demand		**3**	**0**	**1-0:1.35.0.255**					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			"0100012300FF"	--	--	Get	Get			
2	value	double_long_unsigned				--	--	Get, Set	Get			
3	scaler_unit	scal_unit_type			{0,27}	--	--	(Get)	--			
	Total Duration of magnetic field detection		**1**	**0**	**0-0:96.20.18.255**					**M**	**M**	Default value is second
1	logical_name	octet_string[6]			"0000601412FF"	--	--	Get	(Get)			
2	value	double_long_unsigned				--	--	Get	(Get)			
	Limiter		**71**	**0**	**0-0:17.0.0.255**					**M**	**M**	
1	logical_name	octet_string[6]			0000110000FF	--	--	Get	--			
2	monitored_value	value_definition			choice({5,1-0:15.24.0.255, 2} ,{5,1-0:31.4.0.255,2}) ,{5,1-0:51.4.0.255,2}) ,{5,1-0:71.4.0.255,2})	--	--	Get, Set	--			
3	threshold_active	threshold				--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
4	threshold_normal	threshold				--	--	Get, Set	--			
5	threshold_emergency	threshold				--	--	Get, Set	--			
6	min_over_threshold_duration	double_long_unsigned			300	--	--	Get, Set	--			
7	min_under_threshold_duration	double_long_unsigned			300	--	--	Get, Set	--			T1 and T2 in reclosing procedure
8	emergency_profile	emergency_profile_type				--	--	Get, Set	--			
9	emergency_profile_group_id_list	array				--	--	Get, Set	--			
10	emergency_profile_active	boolean				--	--	Get	--			
11	actions	action_set			{{0-0:10.0.106.255,3}, {0-0:10.0.106.255,4}}	--	--	Get, Set	--			3: Disconnect script of disconnector script table (0-0:10.0.106.255) 4: Connect script of disconnector script table (0-0:10.0.106.255)
	Disconnector Script Table		**9**	**0**	0-0:10.0.106.255					**M**	**M**	
1	logical_name	octet_string[6]			00000A006AFF	--	--	Get	--			
2	scripts	array[2] (script9)			{3,{{2,70,0-0:96.3.10.255,1,0}}}, //execute remote disconnect {4,{{2,70,0-0:96.3.10.255,2,0}}}, //execute remote connect}	--	--	Get	--			
1	execute	long_unsigned				--	--	Action	--			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Disconnect Control		**70**	**0**	0-0:96.3.10.255					**M**	**M**	
1	logical_name	octet_string[6]			000060030AFF	--	--	Get	--			
2	output_state	boolean				--	--	Get	--			
3	control_state	enum				--	--	Get	--			(0) Disconnected, (1) onnected, (3) always connected
4	control_mode	enum			0	--	--	Get, Set	--			
1	remote_disconnect	integer				--	--	Action	--			
2	remote_connect	integer				--	--	Action	--			
	Event Object -Disconnector Control log		**1**	**0**	0-0:96.11.2.255					**M**	**M**	
1	logical_name	octet_string[6]			0000600B02FF	--	--	Get	--			
2	value	enum				--	--	Get	--			
	Disconnector Control Log		**7**	**1**	0-0:99.98.2.255					**M**	**M**	
1	logical_name	octet_string[6]			0000636202FF	--	--	Get	(Get)			
2	buffer	array				--	--	Get	(Get)			
3	capture_objects	array[2..3](capture_object_definition)			{{8, 0-0:1.0.0.255, 2, 0}, {1, 0-0:96.11.2.255, 2, 0}, {71, 0-0:17.0.0.255, 3, 0}}	--	--	Get, (Set)	(Get)			
4	capture_period	double_long_unsigned			0	--	--	(Get)	(Get)			
5	sort_method	enum			1	--	--	(Get)	(Get)			
6	sort_object	capture_object_definition			{0,0-0:0.0.0.0,0,0}	--	--	(Get)	(Get)			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
7	entries_in_use	double_long_unsigned				--	--	Get	(Get)			
8	profile_entries	double_long_unsigned			[50..*]	--	--	Get	(Get)			
1	reset	integer				--	--	Action	--			
	Reclosing Configuration		**1**	**0**	0-0:94.98.28.255					**M**	**M**	
1	logical_name	octet_string[6]			00005E621CFF	--	--	Get	--			
2	value	structure { Number of Reclosing (Normal) unsigned Middle Timeout/Norm. (minutes) long_unsigned Final state (normal) enum Number of Reclosing Number (Emg.) unsigned Middle Timeout /Emg.(minutes) long_unsigned Final state (Emg.) enum End Timeout (minutes) long_unsigned }			structure { 3 times 60 min 1 (Disconnected) 3 times 60 min 1 (Disconnected) 180 minutes }	--	--	Get, Set	--			In case of credit management has expired, final state at normal / emergency condition should be always disconnected
	Limiter Threshold Scheduler		**22**	**0**	0-0:94.98.18.255					**M**	**M**	
1	logical_name	octet_string[6]			00005E6212FF	--	--	Get	--			
2	executed_script	script22			{0-0:94.98.25.255, [1/2]}	--	--	Get, Set	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	type	enum			1	--	--	Get, (Set)	--			
4	execution_time	Array [0..1](execution_time_date)				--	--	Get, Set	--			
	Limiter Script Table		**9**	**0**	0-0:94.98.25.255					**M**	**M**	
1	logical_name	octet_string[6]			00005E6219FF	--	--	Get	--			
2	scripts	array[2](script9)			{1,{1,71,0-0:17.0.0.255,4,param.}}, //param.:normal threshold value {2,{1,71,0-0:17.0.0.255,5,param.}}, //param.: emg. threshold value	--	--	Get, Set	--			
1	execute	long_unsigned				--	--	Action	--			
	Fuse Supervision L1		21	0	1-0:31.4.0.255					**O**	**O**	**Optional**
1	logical_name	octet_string[6]			01001F0400FF	--	--	Get	--			
2	thresholds	Array [1]				--	--	Get, Set	--			
3	monitored_value	value_definition			{5,1-0:31.4.0.255,2}	--	--	Get, Set	--			
4	actions	array[1](action_set)				--	--	Get, Set	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
	Fuse Supervision L2		21	0	1-0:51.4.0.255					×	O	Optional
1	logical_name	octet_string[6]			0100330400FF	--	--	Get	--			
2	thresholds	Array [1]				--	--	Get, Set	--			
3	monitored_value	value_definition			{5,1-0:51.4.0.255,2}	--	--	Get, Set	--			
4	actions	array[1](action_set)				--	--	Get, Set	--			
	Fuse Supervision L3		21	0	1-0:71.4.0.255					×	O	Optional
1	logical_name	octet_string[6]			0100470400FF	--	--	Get	--			
2	thresholds	Array [1]				--	--	Get, Set	--			
3	monitored_value	value_definition			{5,1-0:71.4.0.255,2}	--	--	Get, Set	--			
4	actions	array[1](action_set)				--	--	Get, Set	--			
	Reconnect Control Scheduler		**22**	**0**	0-0:15.0.1.255					M	M	
1	logical_name	octet_string[6]			00000F0001FF	--	--	Get	--			
2	executed_script	script22			{0-0:10.0.106.255,4}	--	--	Get	--			
3	type	enum			1	--	--	Get, (Set)	--			
4	execution_time	Array [0..1]				--	--	Get, Set	--			days in both object (0-0:15.0.1.255, 0-0:15.1.1.255) must be the same
	Disconnect Control Scheduler		**22**	**0**	0-0:15.1.1.255					M	M	
1	logical_name	octet_string[6]			00000F0101FF	--	--	Get	--			
2	executed_script	script22			{0-0:10.0.106.255,3}	--	--	Get	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
3	type	enum			1	--	--	Get, (Set)	--			
4	execution_time	array [0..1]				--	--	Get, Set	--			days in both object (0-0:15.0.1.255, 0-0:15.1.1.255) must be the same
	cumulative power off duration		3	0	0-0:96.7.131.255					**M**	**M**	
1	logical_name	octet_string [6]				--	--	Get	(Get)			
2	value	Double-long_unsigned				--	--	Get	(Get)			
3	scaler_unit	scal_unit_type	{0,7}			--	--	(Get)	(Get)			
	Energy management - credit		1	0	0-0:94.98.51.255					**M**	**M**	
1	logical_name	octet-string			00005E6233FF	--	--	Get	--			
2	value	Structure (With 4 elements) { char_unsigned Mode: (default 0) 0- Credit management inactive 1- Credit management active, no action at the end ;Once Credit and extension time expired, just event recorded/ captured data in billing profile. 2- Credit management active, disconnect relay at the end; Once Credit and extension time expired, As well as				--	--	Get, Set	(Get)			

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
		record event and captured data in billing profile, execute disconnect command (record related event) priority is the same as remote disconnect 3- Credit management active, Limiter activated with critical threshold Once Credit and extension time expired, as well as record event and captured data in billing profile, Limiter thresholds substitute with new Threshold until new credit assign or credit management deactivated. double_long_unsigned Extension Time: Once Credit management were activated after Credit expired customer has this dead line for payment (default 0) double_long_unsigned unsigned ended credit Critical threshold										

# #	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
		coefficient: in Mode=3 once Extension time expired Emergency and Normal threshold (in Limiter object class 71) will be substituted with multiplication of this value to Emergency threshold (default 100% Emergency threshold) unsigned Type: low credit threshold (default 20% of assigned credit) char_unsigned Type: reserve for future (default 0) }										
	Tariffication rates		1	0	0-0:94.98.52.255					M	M	
1	logical_name	octet-string			00005E6234FF	--	--	Get	--			
2	rate factor for each tariff	Structure (with 4 elements) } long_unsigned Factor for rate1(default value 100%) : long_unsigned Factor for rate2(default value 100%):				--	--	Get, Set	--			

##	Object/Attribute name	Attribute Type	Class	Version	Default Value	Public (16) for DLMS	PR established (102)	Management (1)	Reading Local (2) Optional	1 phase	3 phase	Remark
		long_unsigned Factor for rate3(default value 100%): long_unsigned Factor for rate4(default value 100%:										
	Credit amount		1	0	0-0:94.98.54.255					**M**	**M**	
1	logical_name	octet-string			00005E6236FF	--	--	Get	--			
2	Credit	double_long				--	--	Get, Set	(Get)			
	null current sensor		1	0	0-0:94.98.55.255					**M**	**×**	
1	logical_name	octet-string			00005E6237FF	--	--	Get	--			for socket type meter
2	Credit	Structure {Boolean: Mode=0 disable, 1 enable long unsigned: Threshold e.g 125 means 12.5% unsigned: Time threshold in seconds }				--	--	Get, Set	--			

ReadOut Parameters

No.	Name	Data Format	Defualt Value	1phase	3phase	No.	Name	Data Format	Defualt Value	1phase	3phase
1	Active energy import (+A)	Visible_string	1-0:1.8.0.255		√	42	Active energy import (+A)/ last period	Visible_string	1-0:1.8.0.101		√
2	Active energy import (+A) rate 1	Visible_string	1-0:1.8.1.255		√	43	Active energy import (+A) rate 1 /last period	Visible_string	1-0:1.8.1.101		√
3	Active energy import (+A) rate 2	Visible_string	1-0:1.8.2.255		√	44	Active energy import (+A) rate 2 /last period	Visible_string	1-0:1.8.2.101		√
4	Active energy import (+A) rate 3	Visible_string	1-0:1.8.3.255		√	45	Active energy import (+A) rate 3 /last period	Visible_string	1-0:1.8.3.101		√
5	Active energy import (+A) rate 4	Visible_string	1-0:1.8.4.255		√	46	Active energy import (+A) rate 4 /last period	Visible_string	1-0:1.8.4.101		√
6	Active energy export (−A)	Visible_string	1-0:2.8.0.255	√	√	47	Active energy export (−A) /last period	Visible_string	1-0:2.8.0.101	√	√
7	Active energy export (−A) rate 1	Visible_string	1-0:2.8.1.255		√	48	Active energy export (−A) rate 1 /last period	Visible_string	1-0:2.8.1.101		√
8	Active energy export (−A) rate 2	Visible_string	1-0:2.8.2.255		√	49	Active energy export (−A) rate 2 /last period	Visible_string	1-0:2.8.2.101		√
9	Active energy export (−A) rate 3	Visible_string	1-0:2.8.3.255		√	50	Active energy export (−A) rate 3 /last period	Visible_string	1-0:2.8.3.101		√
10	Active energy export (−A) rate 4	Visible_string	1-0:2.8.4.255		√	51	Active energy export (−A) rate 4 /last period	Visible_string	1-0:2.8.4.101		√
11	Active energy Combined total (|+A|+|-A|)	Visible_string	1-0:15.8.0.255	√	√	52	Active energy Combined total (|+A|+|-A|) /last period	Visible_string	1-0:15.8.0.101	√	√
12	Active energy Combined total (|+A|+|-A|) rate 1	Visible_string	1-0:15.8.1.255	√	√	53	Active energy Combined total (|+A|+|-A|) rate 1/ last period	Visible_string	1-0:15.8.1.101	√	√
13	Active energy Combined total (|+A|+|-A|) rate 2	Visible_string	1-0:15.8.2.255	√	√	54	Active energy Combined total (|+A|+|-A|) rate 2 /last period	Visible_string	1-0:15.8.2.101	√	√

ReadOut Parameters

No.	Name	Data Format	Defualt Value	1phase	3phase	No.	Name	Data Format	Defualt Value	1phase	3phase
14	Active energy Combined total (|+A|+|-A|) rate 3	Visible_string	1-0:15.8.3.255	√	√	55	Active energy Combined total (|+A|+|-A|) rate 3/ last period	Visible_string	1-0:15.8.3.101	√	√
15	Active energy Combined total (|+A|+|-A|) rate 4	Visible_string	1-0:15.8.4.255	√	√	56	Active energy Combined total (|+A|+|-A|) rate 4/ last period	Visible_string	1-0:15.8.4.101	√	√
16	Reactive energy import (+R) (QI+QII)	Visible_string	1-0:3.8.0.255	√	√	57	Reactive energy import (+R) (QI+QII) /last period	Visible_string	1-0:3.8.0.101		√
17	Reactive energy export (-R) (QIII+QIV)	Visible_string	1-0:4.8.0.255		√	58	Reactive energy export (-R) (QIII+QIV) /last period	Visible_string	1-0:4.8.0.101		√
18	Reactive energy QI (+Ri)	Visible_string	1-0:5.8.0.255		√	59	Reactive energy QI (+Ri)/ last period	Visible_string	1-0:5.8.0.101		√
19	Reactive energy QII (+Rc)	Visible_string	1-0:6.8.0.255		√	60	Reactive energy QII (+Rc) /last period	Visible_string	1-0:6.8.0.101		√
20	Reactive energy QIII (-Ri)	Visible_string	1-0:7.8.0.255		√	61	Reactive energy QIII (-Ri) /last period	Visible_string	1-0:7.8.0.101		√
21	Reactive energy QIV (-Rc)	Visible_string	1-0:8.8.0.255		√	62	Reactive energy QIV (-Rc) /last period	Visible_string	1-0:8.8.0.101		√
22	Maximum Demand Register 1 - Active energy import (+A)	Visible_string	1-0:1.6.0.255		√	63	Maximum Demand Register 1 - Active energy import (+A)/ last period	Visible_string	1-0:1.6.0.101		√
23	Maximum Demand Register 6 - Active energy export (–A)	Visible_string	1-0:2.6.0.255		√	64	Maximum Demand Register 6 - Active energy export (–A) /last period	Visible_string	1-0:2.6.0.101		√
24	Maximum Demand Register 11 - Reactive energy import (+R)	Visible_string	1-0:3.6.0.255		√	65	Maximum Demand Register 11 - Reactive energy import (+R)/ last period	Visible_string	1-0:3.6.0.101		√
25	Maximum Demand Register 16 – Reactive energy export (-R)	Visible_string	1-0:4.6.0.255		√	66	Maximum Demand Register 16 – Reactive energy export (-R)/ last period	Visible_string	1-0:4.6.0.101		√

ReadOut Parameters

No.	Name	Data Format	Defualt Value	1phase	3phase	No.	Name	Data Format	Defualt Value	1phase	3phase
26	Maximum Demand Register 31 - Active energy combined (|+A|+|-A|)	Visible_string	1-0:15.6.0.255	√	√	67	Maximum Demand Register 31 - Active energy combined (|+A|+|-A|)/ last period	Visible_string	1-0:15.6.0.101	√	√
27	Device ID 1 - manufacturing number	Visible_string	0-0:96.1.0.255	√	√	68	Device ID 7 – Tavanir number	Visible_string	1-0:0.0.0.255	√	√
28	Device ID 4	Visible_string	0-0:96.1.3.255	√	√	69	Error Register	Visible_string	0-0:97.97.0.255	√	√
29	Clock	Visible_string	0-0:1.0.0.255	√	√	70	Phase Angle from IL1 to UL1	Visible_string	1-0:81.7.4.255		√
30	Number of power failures phase L1	Visible_string	0-0:96.7.1.255		√	71	Phase Angle from IL2 to UL2	Visible_string	1-0:81.7.15.255		√
31	Number of power failures phase L2	Visible_string	0-0:96.7.2.255		√	72	Phase Angle from IL3 to UL3	Visible_string	1-0:81.7.26.255		√
32	Number of power failures phase L3	Visible_string	0-0:96.7.3.255		√	73					
33	Number of power failures in all phases	Visible_string	0-0:96.7.0.255	√	√	74	Number of changes on meter setting	Visible_string	0-0:96.2.0.255	√	√
34	Duration of violation of Demand	Visible_string	1-0:1.37.0.255		√	75					
35	Duration of violation of Demand last period	Visible_string	1-0:1.37.0.101		√	76	Number of Terminal Cover Removal	Visible_string	0-0:96.20.5.255	√	√
36	Instantaneous current L1	Visible_string	1-0:31.7.0.255	√	√	77					
37	Instantaneous voltage L1	Visible_string	1-0:32.7.0.255	√	√	78	Number of strong magnetic field detections	Visible_string	0-0:96.20.15.255	√	√
38	Instantaneous current L2	Visible_string	1-0:51.7.0.255		√	79	Total Duration of magnetic field detection	Visible_string	0-0:96.20.18.255	√	√
39	Instantaneous voltage L2	Visible_string	1-0:52.7.0.255		√	80	Dtae of last Terminal Cover Removal	Visible_string	0-0:96.20.6.255	√	√
40	Instantaneous current L3	Visible_string	1-0:71.7.0.255		√	81	cumulative power off duration	Visible_string	0-0:96.7.131.255	√	√
41	Instantaneous voltage L3	Visible_string	1-0:72.7.0.255		√	82	Credit amount	Visible_string	0-0:94.98.54.255	√	√

٦- ساختار و فهرست رویدادها

Standard Event Log (0-0:99.98.0.255)

Capacity	*50 entries*
Structure	*{Clock , Event Code, Event Parameter=configuration code} , Event Codes define in Annex: A Event parameter based on FID2*

Fraud Event Log (0-0:99.98.1.255)

Capacity	*50 entries*
Structure	*{Clock , Event Code} , Event Codes define in Annex: A*

Power Quality Event Log (0-0:99.98.4.255)

Capacity	*50 entries*
Structure	*{Clock , Event Code} , Event Codes define in Annex: A*

Communication Event Log (0-0:99.98.5.255)

Capacity	*50 entries*
Structure	*{Clock , Event Code} , Event Codes define in Annex: A*

Config Log (0-0:99.98.7.255)

Capacity	*50 entries*
Structure	*{Clock, configuration Code, Operator name SysTem_Title}*

- **Configuration codes**

1-4 reserved for FID2

5 – LP1 Capture Period

6 – LP3 Capture Period

7-10 reserved for FID2

11 – Password change

12 – Security policy changed (meter)

13-22 reserved for FID2

23- Time Threshold for Under Voltage Detection

24- Time Threshold for Over Voltage Detection

25- Threshold for Under Voltage Detection

26- Threshold for Over Voltage Detection

27- Time Threshold for Missing Voltage

28- Threshold for Missing Voltage

29- Time threshold for long power failure

30-Clock adjust

31-Passive Time of Use programmed

32-Activate passive TOU

33-Encryption has changed

Power Failure Log (1-0:99.97.0.255)

Capacity	*50 entries*
Structure	*{Clock, Event Code, duration of power failure} or* *, Event Codes define in Annex: A*

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
1	Power Down	Indicates a complete power down of the device. Please note that this is related to the device and not necessarily to the network.	×						√	√	M
2	Power Up	Indicates that the device is powered again after a complete power down.	×						√	√	M
3	Daylight saving time enable or disabled	Indicates the regular change from and to daylight saving time. The time stamp shows the time before the change. This event is not set in case of manual clock changes and in case of power failures.	×						√	√	M
4	Clock adjusted (old date/time)	Indicates that the clock has been adjusted. The date/time that is stored in the event log is the old date/time before adjusting the clock. If during time synchronization, the difference between new time and old time of meter is greater than 1 minute (Clock Time Shift Limit), this event should be generated	×						√	√	M
5	Clock adjusted (new date/time)	Indicates that the clock has been adjusted. The date/time that is stored in the event log is the new date/time after adjusting the clock. If during time synchronization, the difference between new time and old time of meter is greater than 1 minute (Clock Time Shift Limit), this event should be generated	×						√	√	M
6	Clock invalid	Indicates that clock may be invalid, i.e. if the power reserve of the clock has exhausted. It is set at power up.	×						√	√	M
7	Replace Battery	Indicates that the battery must be exchanged due to the expected end of life time.	×						√	√	M
8	Battery voltage low	Indicates that the current battery voltage is low.	×						√	√	M
9	TOU activated	Indicates that the passive TOU has been activated.	×						√	√	M
10	Error register cleared	Indicates that the error register was cleared.	×						√	√	M

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
12	program memory error	Indicates a physical or a logical error in the program memory.	×						√	√	M
13	RAM error	Indicates a physical or a logical error in the RAM.	×						√	√	M
14	NV memory error	Indicates a physical or a logical error in the non-volatile memory.	×						√	√	M
15	Watchdog error	Indicates a watch dog reset or a hardware reset of the microcontroller.	×						√	√	M
16	Measurement system error	Indicates a logical of physical error in the measurement system.	×						√	√	M
17	Firmware ready for activation	Indicates that the new firmware has been successfully downloaded and verified, i.e. it is ready for activation.	×						√	√	M
18	Firmware activated	Indicates that a new firmware has been activated.	×						√	√	M
19	Passive TOU programmed	The passive structures of TOU or a new activation date/time were programmed.	×						√	√	M
21..39	Reserved for future use										
40	Terminal cover removed	Indicates that the terminal cover has been removed.		×					√	√	M
41	Terminal cover closed	Indicates that the terminal cover has been closed.		×					√	√	M
42	Strong DC field detected	Indicates that a strong magnetic DC field has been detected.		×					√	√	M
43	No strong DC field anymore	Indicates that the strong magnetic DC field has disappeared.		×					√	√	M

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
46	Association authentication failure (n time failed authentication)	Indicates that a user tried to gain LLS access with wrong password (intrusion detection) or HLS access challenge processing failed n-times.		×					√	√	O
47	One or more parameters changed	Sub events: 3 - Limiter Threshold Normal 4 - Limiter Threshold Emergency 5 – LP1 Capture Period 6 - LP2 Capture Period 11 – Secret change 12 – Security policy changed (meter) 19- Limiter action activated (Attr. 11, IC 71, changed to any action) 20- Limiter action deactivated (Attr. 11, IC 71, changed to any action) 21- Minimum Time Under Threshold 22- Minimum Time Over Threshold 23- Time Threshold for Under Voltage Detection (Optional) 24- Time Threshold for Over Voltage Detection (Optional) 25- Threshold for Under Voltage Detection (Optional) 26- Threshold for Over Voltage Detection (Optional) 27- Time Threshold for Missing Voltage (Optional) 28- Threshold for Missing Voltage (Optional) 29- Time threshold for long power failure 87- Credit Rates Changed 88- Credit Activated 89- Credit Deactivated	×						√	√	M
48	Global key(s) changed	One or more global keys changed Sub Event: 1– Authentication Key for meter change 2 – Encryption Unicast key for meter change	×						√	√	M

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
		3 – Encryption Broadcast key for meter change 6 – Master Key Change 7- Authentication Key for Local Port 8- Encryption Unicast Key for Local Port									
49	Decryption or authentication failure (n time failure)	Decryption with currently valid key (global or dedicated) failed to generate a valid APDU or authentication tag.		×					√	√	O
50	Replay attack	Receive frame counter value less or equal to the last successfully received frame counter in the received APDU Event signalizes as well the situation when the DC has lost the frame counter synchronization.		×					√	√	O
51	FW verification failed	Indicates the transferred firmware verification failed i.e. cannot be activated.	×						√	√	M
53..54	Reserved for future use										
57	Disconnection function enabled	In case of deep switch enabled						×	√	√	M
58	Disconnection function disabled	In case of deep switch disabled						×	√	√	M
62	Remote Disconnection										
63	Remote Connection										
64	Local Disconnection	Indicates that the disconnector has been locally disconnected (via limiter).									
65	Limiter threshold exceed							×	√	√	M
66	Limiter threshold OK							×	√	√	M
67	Limiter threshold changed							×	√	√	M

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
68	Disconnect /Reconnect failure							×	√	√	M
69	Local Reconnection										
70	Fuse supervision L1, threshold exceeded							×	√	√	M
71	Fuse supervision L1, threshold OK								√	√	O
72	Fuse supervision L2, threshold exceeded								×	√	O
73	Fuse supervision L2, threshold OK								×	√	O
74	Fuse supervision L3, threshold exceeded								×	√	O
75	Fuse supervision L3, threshold OK								×	√	O
76	Under voltage L1	Indicates under voltage on at least L1 phase was detected.			×				√	√	O
77	Under voltage L2	Indicates under voltage on at least L2 phase was detected.			×				×	√	O
78	Under voltage L3	Indicates under voltage on at least L3 phase was detected.			×				×	√	O
79	Overvoltage L1	Indicates overvoltage on at least L1 phase was detected.			×				√	√	O
80	Overvoltage L2	Indicates overvoltage on at least L2 phase was detected.			×				×	√	O
81	Overvoltage L3	Indicates overvoltage on at least L3 phase was detected.			×				×	√	O
82	Missing voltage L1	Indicates that the voltage on at least L1 phase has fallen below the Umin threshold for longer than the time delay.			×				√	√	O

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
83	Missing voltage L2	Indicates that the voltage on at least L2 phase has fallen below the Umin threshold for longer than the time delay.			×				✗	✓	O
84	Missing voltage L3	Indicates that the voltage on at least L3 phase has fallen below the Umin threshold for longer than the time delay.			×				✗	✓	O
85	Voltage L1 normal	Indicates that the mains voltage is in normal limits again, e.g. after overvoltage.			×				✓	✓	O
86	Voltage L2 normal	Indicates that the mains voltage is in normal limits again, e.g. after overvoltage.			×				✗	✓	O
87	Voltage L3 normal	Indicates that the mains voltage is in normal limits again, e.g. after overvoltage.			×				✗	✓	O
88	Phase sequence reversal	Indicates wrong mains connection. Usually indicates fraud or wrong installation. For poly phase connection only!	×						✗	✓	M
89	Missing neutral	Indicates that the neutral connection from the supplier to the meter is interrupted (but the neutral connection to the load prevails). The phase voltages measured by the meter may differ from their nominal values.	×						✗	✓	O
90	Phase Asymmetry	Indicates phase asymmetry due to large unbalance of loads connected.			×				✗	✓	O
91	Current Reversal	Indicates unexpected energy export (for devices which are configured for energy import measurement only).		×					✗	✓	O
95	Credit Assigned							×	✓	✓	M
96	Credit Low	(20% of assigned credit)						×	✓	✓	M

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
97	Credit Expired							×	√	√	M
158	Local communication attempt	Indicates a successful communication on any local port has been initiated.				x			√	√	M
204	Power direction has changed				x				×	√	M
205	Manufacturer Phase and Null current are not equal (for single phase Meter) specific	If value of current in Phase and null paths differ more than a threshold (typically 12.5%) this event recorded just for single phase meters.		x					√	×	O
206	Manufacturer Phase and Null current are equal again (for single phase Meter) specific	If value of current in Phase and null paths differ less than a threshold (typically 12.5%) this event recorded just for single phase meters.		x					√	×	O
210	Long power failure in all phases						x		√	√	O
211	Long power failure in phase1						x		×	√	O
212	Long power failure in phase2						x		×	√	O
213	Long power failure in phase3						x		×	√	O
216	Factory reset		x						√	√	M
217	Under Voltage end L1				x				√	√	O
218	Under Voltage end L2				x				×	√	O
219	Under Voltage end L3				x				×	√	O
220	Over Voltage end L1				x				√	√	O

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
221	Over Voltage end L2				x				✗	✓	O
222	Over Voltage end L3				x				✗	✓	O
223	Missing Voltage end L1				x				✓	✓	O
224	Missing Voltage end L2				x				✗	✓	O
225	Missing Voltage end L3				x				✗	✓	O
226	Firmware activation failed		x						✓	✓	M
233..235	Manufacturer specific								✓	✓	M
236	Daily schedule disconnected							x	✓	✓	M
237	Daily schedule connected							x	✓	✓	M
238	Tariffication disconnected							x	✓	✓	M
239	Tariffication connected							x	✓	✓	M
240	Credit management disconnected							x	✓	✓	M
241	Remote disconnected							×	✓	✓	M
242	Remote connected							×	✓	✓	M
243	limiter disconnected							×	✓	✓	M

Event code	Name	Description	Standard Event Log	Fraud Detection Log	Power Quality Event Log	Communication Log	Power Failure Log	Disconnect or Event Log	1 Phase	3Phase	Mandatory/Optional
244	Limiter connected							×	√	√	M
245	Fuse supervision disconnected							×	√	√	O
246	Fuse supervision connected							×	√	√	O
247..253	Manufacturer specific										
254	Load profile cleared	Any of the profiles cleared. NOTE: If it appears in Standard Event Log then any of the E-load profiles was cleared. Sub-Event: 1-Monthly 2 – LP1 (hourly) 3 – LP2 (daily) 4- Supervision Average(For 3ph meters)	×						√	√	M
255	Event log cleared	Indicates that the event log was cleared. This is always the first entry in an event log. It is only stored in the affected event log.	×	×	×				√	√	M