



Appendix 1: COSEM objects definitions

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1. Global objects of the concentrator

Attention

Objects which are considered architecture-dependent thus optional are marked in blue

COSEM logical device name

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	COSEM logical device name	1	(version=0)	0-0:42.0.0.255			
1	logical_name		octet-string[6]	00002A0000FF			R-
2	value		octet-string[13]			example: AND0000007890	R-

DCU identification

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	ID of the device	1	(version=0)	0-0:96.1.0.255			
1	logical_name		octet-string[6]	0000600100FF			R-
2	value		octet-string[13]			example: AND0000007890	R-

	ID of the device	1	(version=0)	0-100:128.0.0.255		
1	logical_name		octet-string[6]	0064800000FF		R-
2	value		octet-string[16]		example: 9500600000004180	R-
	FW version of the device	1	(version=0)	0-100:128.0.1.255		
1	logical_name		octet-string[6]	0064800001FF		R-
2	value		data		manufacturer-specific	R-
	Passport of the device	1	(version=0)	0-100:128.0.2.255		
1	logical_name		octet-string[6]	0064800002FF		R-
2	value		data		manufacturer-specific	R-
	DCSAP protocol version	1	(version=0)	0-100:128.0.3.255		
1	logical_name		octet-string[6]	0064800003FF		R-
2	value		octet-string[4]	03000000	DCSAP version 3.0	R-

Clock

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	Clock	8	(version=0)	0-0:1.0.0.255			
1	logical_name		octet-string[6]	0000010000FF			R-
2	time		octet-string[12]		current time and date		RW
3	time_zone		long	60	GMT+01:00 (winter time)		RW
4	status		unsigned				R-
5	daylights_savings_begin		octet-string[12]				RW
6	daylights_savings_end		octet-string[12]				RW
7	daylights_savings_deviation		integer	60	time shift: +60 min.		RW
8	daylights_savings_enabled		boolean	true	active		RW
9	clock_base		enum	1			R-
-128	time_sync		bool		NTP time synchronization status	can be set to force time synchronization status	RW

Meters clocks synchronisation

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	Meter clock synchronisation on/off	1	(version=0)	0-100:128.1.1.255			
1	logical_name		octet-string[6]	0064800101FF			R-
2	value		boolean	true	false = off / true = on		RW
	Minimum time between synchronisation attempts	3	(version=0)	0-100:128.1.3.255			
1	logical_name		octet-string[6]	0064800103FF			R-
2	value		double-long-unsigned	3600			RW
3	scaler_unit		scal_unit_type	{0,7}	scaler=0, unit=s		R-
	Minimum time deviation	3	(version=0)	0-100:128.1.5.255			
1	logical_name		octet-string[6]	0064800105FF			R-
2	value		double-long-unsigned	30			RW
3	scaler_unit		scal_unit_type	{0,7}	scaler=0, unit=s		R-
	Maximum time between synchronisation attempts	3	(version=0)	0-100:128.1.6.255			

1	logical_name		octet-string[6]	0064800106FF		R-
2	value		double-long-unsigned	172800	48h	RW
3	scaler_unit		scal_unit_type	{0,7}	scaler=0, unit=s	R-
	Meter clock verification cycle	3	(version=0)	0-100:128.1.7.255		
1	logical_name		octet-string[6]	0064800107FF		R-
2	value		double-long-unsigned	43200	12h	RW
3	scaler_unit		scal_unit_type	{0,7}	scaler=0, unit=s	R-
	Synchronisation algorithm	1	(version=0)	0-100:128.1.8.255		
1	logical_name		octet-string[6]	0064800108FF		R-
2	value		unsigned	0	0 - "use_set" / 1 - "use_shift_time"	RW
	Maximum time shift	3	(version=0)	0-100:128.1.9.255		
1	logical_name		octet-string[6]	0064800109FF		R-
2	value		long-unsigned	900		RW

3	scaler_unit		scal_unit_type	{0,7}	scaler=0, unit=s		R-
	Minimum cycle for time shift	3	(version=0)	0-100:128.1.10.255			
1	logical_name		octet-string[6]	006480010AFF			R-
2	value		double-long-unsigned	86400	24h		RW
3	scaler_unit		scal_unit_type	{0,7}	scaler=0, unit=s		R-

Meter access

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	Meter list	40000	(version=0)	0-100:0.0.0.255			
1	logical_name		octet-string[6]	0064000000FF			R-
2	meter_table		array of meter_list_entry				R-
3	entires_in_use		double-long-unsigned				R-
4	max_entries		double-long-unsigned				R-

5	extended_meter_list		extended_meter_list_struct			R-
	DLMS client_id for data collection	1	(version=0)	0-0:128.2.1.255		
1	logical_name		octet-string[6]	0000800201FF		R-
2	value		unsigned	3	(management client)	RW
	Meter firmware control	40054	(version=0)	0-100:0.131.0.255		
1	logical_name		octet-string[6]	0064008300FF		R-
2	distinct_versions		array of version_list_entry			R-
3	schedule		array of schedule_list_entry			RW
4	fw_slots_current_state		fw_slots_current_state_struct			R-
5	fw_unicast_slots_cnt		double-long unsigned	8		RW
6	broadcast_min_receivers		double-long unsigned	2		RW
7	broadcast_freq_ms		double-long unsigned	6000	[ms]	RW
8	broadcast_done_perc		double-long unsigned	200	[%]	RW
9	meter_broadcast_support_forced		unsigned	0		RW

10	meter_broadcast_support_forbidden		unsigned	0			RW
11	is_updater_paused		unsigned	0			RW
12	disable_fw_version_check_before_upgrade		unsigned	0			RW
	Meter emergency control	40055	(version=0)	0-100:0.132.0.255			
1	logical_name		octet-string[6]	0064008400FF			R-
2	broadcast_repeat_cnt		double-long-unsigned	20			RW
3	broadcast_freq_ms		double-long-unsigned	2000	[ms]		RW
M1	start(emergency_profile)						-W
M2	cancel()						-W
	Meter ACL	1	(version=0)	0-100:0.133.0.255			
1	logical_name		octet-string[6]	0064008500FF			R-
2	value		array of struct { type: unsigned value: octet-string[16] control: double-long-		Meter Access Control List (LDN wildcards defining what is allowed and what is forbidden for given meter) type: 1 -> deny by LDN; 2 -> allow by LDN value: LDN wildcard		RW

			unsigned }		control: bitfield with request types: bit0: time synchronisation bit1: profile data bit2: firmware update bit3: remote requests (on-demand) special mask: 0xffffffff - all requests		
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Security settings

No	Object/Attribute name	CI Type	Value	Meaning	Comments	Access
	Permissions: webGUI	1 (version=0)	0-100:31.0.0.255			
1	logical_name	octet-string[6]	00641F0000FF			R-
2	value	bit-string[256]		default: all allowed 0xff		RW
	Permissions: remote access (no SSL)	1 (version=0)	0-100:31.0.1.255			
1	logical_name	octet-string[6]	00641F0001FF			R-
2	value	bit-string[256]		default: all allowed 0xff		RW

	Permissions: remote access over SSL - default	1	(version=0)	0-100:31.0.2.255			
1	logical_name		octet-string[6]	00641F0002FF			R-
2	value		bit-string[256]		default: all allowed 0xff		RW
	Permissions: remote access over SSL - group 3	1	(version=0)	0-100:31.0.3.255			
1	logical_name		octet-string[6]	00641F0003FF			R-
2	value		bit-string[256]		default: read only 0x00		RW
	Permissions: remote access over SSL - group 4	1	(version=0)	0-100:31.0.4.255			
1	logical_name		octet-string[6]	00641F0004FF			R-
2	value		bit-string[256]		default: read only + remote allowed 0x000000008000		RW
	Permissions: remote access over SSL - group 5	1	(version=0)	0-100:31.0.5.255			

1	logical_name		octet-string[6]	00641F0005FF			R-
2	value		bit-string[256]		default: all allowed - permissions change 0x00000000c000		RW
	Permissions: remote access over SSL - group 6	1	(version=0)	0-100:31.0.6.255			
1	logical_name		octet-string[6]	00641F0006FF			R-
2	value		bit-string[256]		default: read only 0x00		RW

Other abstract objects

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	DCU status flags	3	(version=0)	0-100:0.99.0.255			
1	logical_name		octet-string[6]	0064006300FF			R-
2	value		double-long unsigned				RW
3	scaler_unit		scal_unit_type	{0,255}	scaler=0, unit=no unit		R-
	DCU application statistics	3	(version=0)	0-100:0.100.0.255			

1	logical_name		octet-string[6]	0064006400FF			R-
2	value		<pre> struct { time: double-long-unsigned uptime: double-long-unsigned mem: double-long-unsigned version: octet-string dev_id1: octet-string dev_id2: octet-string ntp_sync: boolean plc_mac: octet-string status_flags: double-long-unsigned sys_ver: octet-string temperature: double-long } </pre>		basic DCU statistics and statuses		R-
3	scaler_unit		scal_unit_type	{0,255}	scaler=0, unit=no unit		R-
	Meters cumulative statistics	40057	(version=0)	0-100:0.102.0.255			
1	logical_name		octet-string[6]	0064006600FF			R-
2	periodic_stats		array of periodic_stats_list_entry				R-

3	current_stats		current_stats_definition			R-
	DCU application events	40056	(version=0)	0-100:0.103.0.255		
1	logical_name		octet-string[6]	0064006700FF		R-
2	state		enum			R-
3	max_limits		max_limits_struct	{-1, 2097152}	events limited to 2MB storage	RW
4	counts_curr		counts_curr_struct			R-
5	timestamps		timestamps_struct			R-
6	app_events_mask		double-long-unsigned	5	default: only PLC events	RW
M1	reset()					-W
	DCU firmware	40101	(version=1)	0-100:0.0.1.255		
1	logical_name		octet-string[6]	0064000001FF		R-
2	version		octet-string			R-
3	checksum		octet-string			R-
4	last_update_time		date-time			R-
5	last_update_id		double-long-unsigned			R-

6	last_update_status		integer			R-
7	last_update_progress		unsigned			R-
M1	start_update(https_url)					-W
M2	abort_update(update_id)					-W
M3	start_conditional_update(data)					-W
	DCU run information	40103	(version=0)	0-100:0.0.2.255		
1	logical_name		octet-string[6]	0064000002FF		R-
2	start_count		double-long-unsigned			R-
3	last_start_time		date-time			R-
4	last_start_status		integer			R-
5	curr_uptime_secs		double-long-unsigned			R-
6	prev_start_time		date-time			R-
7	prev_start_status		integer			R-
8	prev_uptime_secs		double-long-unsigned			R-
M1	restart()					-W

	DCU event list	40001 (version=1)	0-100:0.0.3.255		
1	logical_name	octet-string[6]	0064000003FF		R-
2	event_log	array of event_list_entry			R-
3	entires_in_use	double-long-unsigned			R-
4	max_entries	double-long-unsigned	10000		R-
5	event_mask	array[2] of bit-string[256]	{F7FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF FFFC7FF7FFFFFFFFFFFFFFFFFFFFFFFF 00000000000000000000000000000000 00100000004000000000000000000000}		RW
M1	push(event)				-W
	DCU NTP server list	40100 (version=0)	0-100:0.0.4.255		
1	logical_name	octet-string[6]	0064000004FF		R-
2	string_list	array of octet-string			RW
3	entires_in_use	double-long-unsigned			R-
4	max_entries	double-long-unsigned			R-
M1	sync_now()			Try to synchronize time with NTP as soon as possible	-W

	DCU network statistics	40002 (version=0)	0-100:0.0.5.255			
1	logical_name		octet-string[6]	0064000005FF		R-
2	sessions_opened		long64-unsigned			R-
3	sessions_active		long64-unsigned			R-
4	bytes_received		long64-unsigned			R-
5	bytes_sent		long64-unsigned			R-
6	messages_received		long64-unsigned			R-
7	messages_sent		long64-unsigned			R-
8	dcu_reqs_completed		long64-unsigned			R-
9	meter_reqs_completed		long64-unsigned			R-
	DCU event list - important events	40001 (version=1)	0-100:0.1.3.255			
1	logical_name		octet-string[6]	0064000103FF		R-
2	event_log		array of event_list_entry			R-
3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned	10000		R-

5	event_mask		array[2] of bit-string[256]	{0, 0}	all events disabled		RW
M1	push(event)						-W
	DCU initconfig	40051	(version=0)	0-100:0.128.0.255			
1	logical_name		octet-string[6]	0064008000FF			R-
16	conn_slots		double-long	-1	-1 → dynamic scalling based of connected meters count		RW
17	conn_slots_hard_limit		double-long-unsigned	16			R-
18	max_conn_meters		double-long-unsigned	2048			R-
32	max_db_meters		double-long-unsigned	2048			R-
33	pagecache_kb		double-long-unsigned	4096			R-
34	heap_kb		double-long-unsigned	1024			R-
48	profile_max_capture_object_cnt		double-long-unsigned	48			R-
49	profile_cnt_per_meter		double-long-unsigned		(deprecated, not used anymore)		RW
50	prof_conf_cache_cnt		double-long-unsigned	100			R-
51	past_hours_gather_new		double-long-unsigned	168			RW

52	keep_profile_data_for_secs	double-long-unsigned	5443200		RW
53	keep_inactive_meters_for_secs	double-long-unsigned	7776000		RW
54	cache_cleaner_rescan_every_secs	double-long-unsigned	21600		RW
55	keep_profile_data_min_entries	double-long-unsigned	250		RW
56	keep_profile_data_max_entries	double-long-unsigned	9100		RW
57	keep_profile_data_max_entries_plc	double-long-unsigned	3000		RW
58	past_hours_gather_gap	double-long	-1		RW
59	auto_prof_readout_disabled	boolean	false		RW
60	max_prof_rows_per_req	double-long-unsigned	4		RW
64	channel_cnt	double-long-unsigned	16		R-
65	remote_msg_size	double-long-unsigned	4096		R-
66	remote_msg_cnt	double-long-unsigned	160		R-
67	local_msg_size	double-long-unsigned	204800		R-
68	local_msg_per_channel_cnt	double-long-unsigned	1		R-
69	remote_query_timeout_sec	double-long-unsigned	1200		R-

80	dlms_max_resp_size		double-long-unsigned	16384			R-
96	device_identifier		octet-string		(format 1)		R-
97	device_identifier2		octet-string		(format 2 if supported)		R-
98	system_version		octet-string		currently empty on all platforms		R-
112	band		double-long-unsigned	1			RW
113	mac_bc		boolean	true			RW
114	phy_bc		boolean	false			RW
115	frame_len		double-long-unsigned	1			RW
	DCU modem parameters	40052 (version=0)		0-100:0.129.0.255			
1	logical_name		octet-string[6]	0064008100FF			R-
2	pcap_cnt_limit		double-long-unsigned		0 – disables data dumps		RW
3	pcap_file_reset		double-long-unsigned				RW
M1	send_broadcast_packet()						-W
	DCU debug parameters	1 (version=0)		0-100:0.130.0.255			
1	logical_name		octet-string[6]	0064008200FF			R-

2	DLMS_verbose		boolean	false	if true - writes to the log (syslog) all sent / received DLMS packets in hex		RW
	DCU profile config cache	1	(version=0)	0-100:0.134.0.255			
1	logical_name		octet-string[6]	0064008600FF			R-
2	data		array of { obis: octet-string[6] capture_objects : array of capture-object- definition or null capture_period: double-long max_entries: double- long use_cnt: double-long- unsigned }		Dynamically changing during the device lifetime, this is the union of all profiles for all meters available at the cache		R-
	DCU predefined profiles	1	(version=0)	0-100:0.134.1.255			
1	logical_name		octet-string[6]	0064008601FF			R-
2	data		array of { name_wildcard: octet- string[16] obis: octet-string[6] }	[{"*", 0100630100FF}, {"*", 0100630200FF}]	List of rules to preconfigure the cache mechanism. Each rule consists of Logical Device Name wildcard ('?' and '*' chars supported) and profile OBIS code to be cached in the DCU.		RW

	DCU disabled profiles	1	(version=0)	0-100:0.134.2.255		
1	logical_name		octet-string[6]	0064008602FF		R-
2	data		array of { name_wildcard: octet-string[16] obis: octet-string[6] }		List of rules to initialize profile <code>automatic_readout</code> attribute. The <code>automatic_readout</code> is recomputed when new profile is added to the DCU cache and when this object is set. Each rule consists of Logical Device Name wildcard ('?' and '*' chars supported) and profile OBIS code which should have <code>automatic_readout</code> set to <code>false</code> .	RW
	DCU system services	40100	(version=0)	0-100:170.0.1.255		
1	logical_name		octet-string[6]	0064AA0001FF		R-
2	string_list		array of octet-string			RW
3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
	DCU IP configuration	40100	(version=0)	0-100:170.0.2.255	WAN ethernet interface	
1	logical_name		octet-string[6]	0064AA0002FF		R-
2	string_list		array of octet-string			RW

3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
DCU DDNS configuration		40100 (version=0)		0-100:170.0.3.255		
1	logical_name		octet-string[6]	0064AA0003FF		R-
2	string_list		array of octet-string			RW
3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
DCU users configuration		40100 (version=0)		0-100:170.0.4.255		
1	logical_name		octet-string[6]	0064AA0004FF		R-
2	string_list		array of octet-string			RW
3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
DCU login limits configuration		40100 (version=0)		0-100:170.0.5.255		
1	logical_name		octet-string[6]	0064AA0005FF		R-
2	string_list		array of octet-string			RW

3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
DCU certnanny configuration		40100 (version=0)	0-100:170.0.6.255			
1	logical_name		octet-string[6]	0064AA0006FF		R-
2	string_list		array of octet-string			RW
3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
DCU IPSEC configuration		40100 (version=0)	0-100:170.0.7.255			
1	logical_name		octet-string[6]	0064AA0007FF		R-
2	string_list		array of octet-string			RW
3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
DCU IP configuration		40100 (version=0)	0-100:170.0.8.255	LAN ethernet interface (if applicable)		
1	logical_name		octet-string[6]	0064AA0002FF		R-
2	string_list		array of octet-string			RW

3	entires_in_use		double-long-unsigned			R-
4	max_entries		double-long-unsigned			R-
	DCU meter types	1	(version=0)	0-100:180.0.1.255		
1	logical_name		octet-string[6]	0064B40001FF		R-
2	value		data		webGUI configuration	RW

2. Session objects of a concentrator

DCU session

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	Session caching	1	(version=0)	0-100:32.0.0.255	serves data from DCU cache if available		
1	logical_name		octet-string[6]	0064200000FF			R-
2	value		boolean	true			RW
	Session notifications	1	(version=0)	0-100:32.0.1.255	receive notifications in this session		
1	logical_name		octet-string[6]	0064200001FF			R-

2	value	boolean	false		RW
	Session client id	1 (version=0)	0-100:63.0.0.255	DLMS client ID to be used for remote queries	
1	logical_name	octet-string[6]	00643F0000FF		R-
2	value	unsigned	3	management client ID	RW
	Session remote timeout	1 (version=0)	0-100:63.0.1.255	remote connections queries timeout	
1	logical_name	octet-string[6]	00643F0001FF		R-
2	value	double-long-unsigned	0	0 means usage of global timeout (remote_query_timeout_sec from DCU initconfig object 0-100:0.128.0.255/69)	RW
	Session requests sequential	1 (version=0)	0-100:63.0.2.255	used for local connections	
1	logical_name	octet-string[6]	00643F0002FF		R-
2	value	boolean	false	local (www) requests have default value „true” - they are serialized (use large buffers, which means only one request can be scheduled at a time)	RW
	Session origin	1 (version=0)	0-100:32.1.0.255	origin of current connection	
1	logical_name	octet-string[6]	0064200100FF		R-

2	value	unsigned		0 - local 1 - remote 2 - remote SSL		R-
	Session common name	1 (version=0)	0-100:32.1.1.255	CN from client certificate in case of SSL		
1	logical_name	octet-string[6]	0064200101FF			R-
2	value	octet-string				R-
	Session permission group	1 (version=0)	0-100:32.1.2.255	permission group used for permission checking		
1	logical_name	octet-string[6]	0064200102FF			R-
2	value	unsigned				R-

3. Global objects of meters realised by a concentrator

Meters

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	Meter profile special cpobj	40060	(version=0)	0-100:0.255.255.255			
1	logical_name		octet-string[6]	006400FFFFFF			R-

2	prof_time		double-long-unsigned			R-
3	recv_time		double-long-unsigned			R-
4	row_idx		double-long-unsigned			R-
5	complex_idx		complex_idx_struct		attributes 2, 3 and 4 in one struct	R-
	Meter basic information	40102 (version=1)		0-100:64.0.0.255		
1	logical_name		octet-string[6]	0064400000FF		R-
2	config_id		double-long-unsigned			R-
3	passport		octet-string			R-
4	error_flags		double-long-unsigned			R-
5	meter_name		octet-string[13]			R-
6	max_query_obises		double-long-unsigned			R-
7	time_recv_quirks		double-long-unsigned			R-
8	time_send_quirks		double-long-unsigned			R-
9	max_response_bytes		double-long-unsigned			R-

10	last_clock_diff		double-long			R-
11	logic_quirks		double-long-unsigned			R-
12	security_quirks		double-long-unsigned			R-
M1	clear_error_flags(mask)					-W
M2	delete()					-W
M3	delete_profiles()					-W
M4	disconnect_topo()					-W
M5	disconnect_conn()					-W
	Meter firmware	40101 (version=1)		0-100:64.0.1.255		
1	logical_name		octet-string[6]	0064400001FF		R-
2	version		octet-string			R-
3	checksum		octet-string			R-
4	last_update_time		date-time			R-
5	last_update_id		double-long-unsigned			R-
6	last_update_status		integer			R-

7	last_update_progress		unsigned			R-
M1	start_update(https_url)					-W
M2	abort_update(update_id)					-W
M3	start_conditional_update(data)					-W
Meter profile configuration		40160	(version=0)	0-100:160.0.1.255		
1	logical_name		octet-string[6]	0064A00001FF		R-
2	profile_metadata		array of profile_metadata_struct			R-
Meter DLMS Security Setup - Reading association		40199	(version=0)	0-100:65.0.2.255		
1	logical_name		octet-string[6]	0064410002FF		R-
2	security_policy		enum			RW
3	authentication_mechanism_id		unsigned	1		RW
4	secret		octet-string			-W
5	global_unicast_encryption_key		octet-string			-W
6	global_broadcast_encryption_key		octet-string			-W

7	global_authentication_key		octet-string				-W
8	error_flags		double-long-unsigned				
Meter DLMS Security Setup - Management association		40199	(version=0)	0-100:65.0.3.255			
1	logical_name		octet-string[6]	0064410003FF			R-
2	security_policy		enum				RW
3	authentication_mechanism_id		unsigned	1			RW
4	secret		octet-string				-W
5	global_unicast_encryption_key		octet-string				-W
6	global_broadcast_encryption_key		octet-string				-W
7	global_authentication_key		octet-string				-W
8	error_flags		double-long-unsigned				
Meter DLMS Security Setup - Firmware Update association		40199	(version=0)	0-100:65.0.4.255			
1	logical_name		octet-string[6]	0064410004FF			R-
2	security_policy		enum				RW
3	authentication_mechanism_id		unsigned	1			RW

4	secret		octet-string				-W
5	global_unicast_encryption_key		octet-string				-W
6	global_broadcast_encryption_key		octet-string				-W
7	global_authentication_key		octet-string				-W
8	error_flags						
Meter DLMS Security Setup - Preestablished association		40199	(version=0)	0-100:65.0.6.255			
1	logical_name		octet-string[6]	0064410006FF			R-
2	security_policy		enum				RW
3	authentication_mechanism_id		unsigned				RW
4	secret		octet-string				-W
5	global_unicast_encryption_key		octet-string				-W
6	global_broadcast_encryption_key		octet-string				-W
7	global_authentication_key		octet-string				-W
8	error_flags						
Meter TX frame counter - Reading association - global unicast		1	(version=0)	0-100:66.0.2.255			

1	logical_name		octet-string[6]	0064420002FF		R-
2	value		double-long-unsigned			RW
	Meter RX frame counter - Reading association - global unicast	1		0-100:66.128.2.255		
1	logical_name		octet-string[6]	0064428002FF		R-
2	value		double-long-unsigned			RW
	Meter TX frame counter - Management association - global unicast	1		0-100:66.0.3.255		
1	logical_name		octet-string[6]	0064420003FF		R-
2	value		double-long-unsigned			RW
	Meter RX frame counter - Management association - global unicast	1		0-100:66.128.3.255		
1	logical_name		octet-string[6]	0064428003FF		R-
2	value		double-long-unsigned			RW
	Meter TX frame counter - Firmware Update association - global unicast	1		0-100:66.0.4.255		
1	logical_name		octet-string[6]	0064420004FF		R-
2	value		double-long-unsigned			RW

	Meter RX frame counter - Firmware Update association - global unicast	1		0-100:66.128.4.255		
1	logical_name		octet-string[6]	0064428004FF		R-
2	value		double-long-unsigned			RW
	Meter frame counter - Firmware Update association - global broadcast	1		0-100:66.1.4.255		
1	logical_name		octet-string[6]	0064420104FF		R-
2	value		double-long-unsigned			RW
	Meter frame counter - Preestablished association - global broadcast	1		0-100:66.1.6.255		
1	logical_name		octet-string[6]	0064420106FF		R-
2	value		double-long-unsigned			RW

Data served from cache

No	Object/Attribute name	CI	Type	Value	Meaning	Comments	Access
	Profile <template>	7	(version=1)	7/<*.**.**.*)>	DCU will cache any profile the HES will ask for		

1	logical_name	octet-string[6]	<template>			R-
2	buffer	array		available with access selector type 1 and 0x81 → {from_ts, to_ts}		R-
3	capture_objects	array		cached		R-
4	capture_period	double-long-unsigned		cached		R-
5	sort_method	enum		not available		--
6	sort_object	capture_object_definition		not available		--
7	entries_in_use	double-long-unsigned		not available		--
8	profile_entries	double-long-unsigned		cached		R-
-127	buffer_gaps	array of { from_ts : double-long-unsigned, to_ts: double-long-unsigned }		get GMT unix timestamps of profile gaps		R-
-80	auto_readout	boolean	true	automatically gather data from this profile		RW
M1	reset(data)			not available		--
M2	capture(data)			not available		--
M-96	reread_config()			re-read attributes 3,4 and 8		-W

M-95	cache_reset()			delete all data in cache		-W
M-94	forced_gap_get(timestamp)			try to readout gaps with beginning bigger or equal than timestamp (in GMT)		-W
M-93	force_fetch_data()			force data readout for profiles with capture_period == 0		-W
M-92	delete()			removes profile (data + configuration) from the cache		-W