

**General remarks:**

- ASDU 13: it can be configured whether these data objects are included in cyclic transmission (all included or no cyclic)
- ASDU 36: each data point can be disabled by configuration for IEC 104 transmission, then no spontaneous and shown as blocked in G
- ASDU 37: spontaneous transmission of Integrated totals can be disabled

IOA	Default Value	ASDU Type	GI	Spont	Cyclic	BgScan	GI Group	Only for commands:	Description	Remarks for testing	Unit
								Command type			
<b>Measured value (M_ME)</b>											
1 (1, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Va	Voltage a-N	V
2 (2, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Vb	Voltage b-N	V
3 (3, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Vc	Voltage c-N	V
4 (4, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		VN	Voltage neutral conductor	V
5 (5, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Ia	Current a	A
6 (6, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Ib	Current b	A
7 (7, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Ic	Current c	A
8 (8, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		IN	Current neutral conductor	A
9 (9, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Pa	Active power a	W
10 (10, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Pb	Active power b	W
11 (11, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Pc	Active power c	W
12 (12, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		P	Active power	W
13 (13, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Qa	Reactive power a	var
14 (14, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Qb	Reactive power b	var
15 (15, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Qc	Reactive power c	var
16 (16, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		Q	Reactive power	var
17 (17, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		cos φ (a)	Active power factor a	-
18 (18, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		cos φ (b)	Active power factor b	-
19 (19, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		cos φ (c)	Active power factor c	-
20 (20, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		cos φ	Active power factor	-
21 (21, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		φab	Angle between the phase-ground voltages Va and Vb	°
22 (22, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		φac	Angle between the phase-ground voltages Va and Vc	°
23 (23, 0, 0)	0	13, 36	yes	yes	yes	no	0, 1		f	Frequency	Hz
24 (24, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa Fundamental component magnitude	Voltage Harmonics Va, magnitudes	V
25 (25, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 2 magnitude		V
26 (26, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 3 magnitude		V
27 (27, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 4 magnitude		V
28 (28, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 5 magnitude		V
29 (29, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 6 magnitude		V
30 (30, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 7 magnitude		V
31 (31, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 8 magnitude		V
32 (32, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 9 magnitude		V
33 (33, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 10 magnitude		V
34 (34, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 11 magnitude		V
35 (35, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 12 magnitude		V
36 (36, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 13 magnitude		V
37 (37, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 14 magnitude		V

38 (38, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 15 magnitude	V
39 (39, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 16 magnitude	V
40 (40, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 17 magnitude	V
41 (41, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 18 magnitude	V
42 (42, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 19 magnitude	V
43 (43, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 20 magnitude	V
44 (44, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVa 21 magnitude	V
45 (45, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb Fundamental component magnitude	V
46 (46, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 2 magnitude	V
47 (47, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 3 magnitude	V
48 (48, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 4 magnitude	V
49 (49, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 5 magnitude	V
50 (50, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 6 magnitude	V
51 (51, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 7 magnitude	V
52 (52, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 8 magnitude	V
53 (53, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 9 magnitude	V
54 (54, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 10 magnitude	V
55 (55, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 11 magnitude	V
56 (56, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 12 magnitude	V
57 (57, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 13 magnitude	V
58 (58, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 14 magnitude	V
59 (59, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 15 magnitude	V
60 (60, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 16 magnitude	V
61 (61, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 17 magnitude	V
62 (62, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 18 magnitude	V
63 (63, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 19 magnitude	V
64 (64, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 20 magnitude	V
65 (65, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVb 21 magnitude	V
66 (66, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc Fundamental component magnitude	V
67 (67, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 2 magnitude	V
68 (68, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 3 magnitude	V
69 (69, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 4 magnitude	V
70 (70, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 5 magnitude	V
71 (71, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 6 magnitude	V
72 (72, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 7 magnitude	V
73 (73, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 8 magnitude	V
74 (74, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 9 magnitude	V
75 (75, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 10 magnitude	V
76 (76, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 11 magnitude	V
77 (77, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 12 magnitude	V
78 (78, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 13 magnitude	V
79 (79, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 14 magnitude	V
80 (80, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 15 magnitude	V
81 (81, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 16 magnitude	V
82 (82, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 17 magnitude	V
83 (83, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 18 magnitude	V
84 (84, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 19 magnitude	V

Voltage Harmonics Vb, magnitudes

Voltage Harmonics Vc, magnitudes

85 (85, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 20 magnitude	V
86 (86, 0, 0)	0	13, 36	yes	yes	yes	no	0, 2		HVc 21 magnitude	V
87 (87, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla Fundamental component magnitude	A
88 (88, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 2 magnitude	A
89 (89, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 3 magnitude	A
90 (90, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 4 magnitude	A
91 (91, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 5 magnitude	A
92 (92, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 6 magnitude	A
93 (93, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 7 magnitude	A
94 (94, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 8 magnitude	A
95 (95, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 9 magnitude	A
96 (96, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 10 magnitude	A
97 (97, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 11 magnitude	A
98 (98, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 12 magnitude	A
99 (99, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 13 magnitude	A
100 (100, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 14 magnitude	A
101 (101, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 15 magnitude	A
102 (102, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 16 magnitude	A
103 (103, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 17 magnitude	A
104 (104, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 18 magnitude	A
105 (105, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 19 magnitude	A
106 (106, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 20 magnitude	A
107 (107, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hla 21 magnitude	A
108 (108, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb Fundamental component magnitude	A
109 (109, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 2 magnitude	A
110 (110, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 3 magnitude	A
111 (111, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 4 magnitude	A
112 (112, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 5 magnitude	A
113 (113, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 6 magnitude	A
114 (114, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 7 magnitude	A
115 (115, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 8 magnitude	A
116 (116, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 9 magnitude	A
117 (117, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 10 magnitude	A
118 (118, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 11 magnitude	A
119 (119, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 12 magnitude	A
120 (120, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 13 magnitude	A
121 (121, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 14 magnitude	A
122 (122, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 15 magnitude	A
123 (123, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 16 magnitude	A
124 (124, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 17 magnitude	A
125 (125, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 18 magnitude	A
126 (126, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 19 magnitude	A
127 (127, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 20 magnitude	A
128 (128, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlb 21 magnitude	A
129 (129, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc Fundamental component magnitude	A
130 (130, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 2 magnitude	A
131 (131, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 3 magnitude	A

Current Harmonics Ia, magnitudes

Current Harmonics Ib, magnitudes

132 (132, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 4 magnitude	A
133 (133, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 5 magnitude	A
134 (134, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 6 magnitude	A
135 (135, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 7 magnitude	A
136 (136, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 8 magnitude	A
137 (137, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 9 magnitude	A
138 (138, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 10 magnitude	A
139 (139, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 11 magnitude	A
140 (140, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 12 magnitude	A
141 (141, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 13 magnitude	A
142 (142, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 14 magnitude	A
143 (143, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 15 magnitude	A
144 (144, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 16 magnitude	A
145 (145, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 17 magnitude	A
146 (146, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 18 magnitude	A
147 (147, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 19 magnitude	A
148 (148, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 20 magnitude	A
149 (149, 0, 0)	0	13, 36	yes	yes	yes	no	0, 3		Hlc 21 magnitude	A
150 (150, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 2 angle	°
151 (151, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 3 angle	°
152 (152, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 4 angle	°
153 (153, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 5 angle	°
154 (154, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 6 angle	°
155 (155, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 7 angle	°
156 (156, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 8 angle	°
157 (157, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 9 angle	°
158 (158, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 10 angle	°
159 (159, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 11 angle	°
160 (160, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 12 angle	°
161 (161, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 13 angle	°
162 (162, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 14 angle	°
163 (163, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 15 angle	°
164 (164, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 16 angle	°
165 (165, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 17 angle	°
166 (166, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 18 angle	°
167 (167, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 19 angle	°
168 (168, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 20 angle	°
169 (169, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVa 21 angle	°
170 (170, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 2 angle	°
171 (171, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 3 angle	°
172 (172, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 4 angle	°
173 (173, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 5 angle	°
174 (174, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 6 angle	°
175 (175, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 7 angle	°
176 (176, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 8 angle	°
177 (177, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 9 angle	°
178 (178, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 10 angle	°
179 (179, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 11 angle	°
180 (180, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 12 angle	°

Current Harmonics Ic, magnitudes

Voltage Harmonics Va, Phase Angles  
(as delta to the phase angle of the fundamental component)Voltage Harmonics Vb, Phase Angles  
(as delta to the phase angle of the fundamental component)

181 (181, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 13 angle	Component	°
182 (182, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 14 angle		°
183 (183, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 15 angle		°
184 (184, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 16 angle		°
185 (185, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 17 angle		°
186 (186, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 18 angle		°
187 (187, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 19 angle		°
188 (188, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 20 angle		°
189 (189, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVb 21 angle		°
190 (190, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 2 angle		Voltage Harmonics Vc, Phase Angles (as delta to the phase angle of the fundamental component)
191 (191, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 3 angle	°	
192 (192, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 4 angle	°	
193 (193, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 5 angle	°	
194 (194, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 6 angle	°	
195 (195, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 7 angle	°	
196 (196, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 8 angle	°	
197 (197, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 9 angle	°	
198 (198, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 10 angle	°	
199 (199, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 11 angle	°	
200 (200, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 12 angle	°	
201 (201, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 13 angle	°	
202 (202, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 14 angle	°	
203 (203, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 15 angle	°	
204 (204, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 16 angle	°	
205 (205, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 17 angle	°	
206 (206, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 18 angle	°	
207 (207, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 19 angle	°	
208 (208, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 20 angle	°	
209 (209, 0, 0)	0	13, 36	yes	yes	yes	no	0, 4		HVc 21 angle	°	
210 (210, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 2 angle	Current Harmonics Ia, Phase Angles (as delta to the phase angle of the fundamental component)	°
211 (211, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 3 angle		°
212 (212, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 4 angle		°
213 (213, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 5 angle		°
214 (214, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 6 angle		°
215 (215, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 7 angle		°
216 (216, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 8 angle		°
217 (217, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 9 angle		°
218 (218, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 10 angle		°
219 (219, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 11 angle		°
220 (220, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 12 angle		°
221 (221, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 13 angle		°
222 (222, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 14 angle		°
223 (223, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 15 angle		°
224 (224, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 16 angle		°
225 (225, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 17 angle		°
226 (226, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 18 angle		°
227 (227, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 19 angle		°
228 (228, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 20 angle		°
229 (229, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		Hla 21 angle	°	

230 (230, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 2 angle		°
231 (231, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 3 angle		°
232 (232, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 4 angle		°
233 (233, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 5 angle		°
234 (234, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 6 angle		°
235 (235, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 7 angle		°
236 (236, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 8 angle		°
237 (237, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 9 angle		°
238 (238, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 10 angle		°
239 (239, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 11 angle		°
240 (240, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 12 angle		°
241 (241, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 13 angle		°
242 (242, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 14 angle		°
243 (243, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 15 angle		°
244 (244, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 16 angle		°
245 (245, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 17 angle		°
246 (246, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 18 angle		°
247 (247, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 19 angle		°
248 (248, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 20 angle		°
249 (249, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1b 21 angle		°
250 (250, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 2 angle		°
251 (251, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 3 angle		°
252 (252, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 4 angle		°
253 (253, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 5 angle		°
254 (254, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 6 angle		°
255 (255, 0, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 7 angle		°
256 (0, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 8 angle		°
257 (1, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 9 angle		°
258 (2, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 10 angle		°
259 (3, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 11 angle		°
260 (4, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 12 angle		°
261 (5, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 13 angle		°
262 (6, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 14 angle		°
263 (7, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 15 angle		°
264 (8, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 16 angle		°
265 (9, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 17 angle		°
266 (10, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 18 angle		°
267 (11, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 19 angle		°
268 (12, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 20 angle		°
269 (13, 1, 0)	0	13, 36	yes	yes	yes	no	0, 5		H1c 21 angle		°
270 (14, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		φ (a)	Phase angle a	°
271 (15, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		φ (b)	Phase angle b	°
272 (16, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		φ (c)	Phase angle c	°
273 (17, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		φ	Phase angle	°
274 (18, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		Vunbal	Asymmetric voltage	%
275 (19, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		Iunbal	Asymmetric current	%
276 (20, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		Sa	Apparent power a	VA
277 (21, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		Sb	Apparent power b	VA
278 (22, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		Sc	Apparent power c	VA

Current Harmonics Ib, Phase Angles  
(as delta to the phase angle of the fundamental component)

Current Harmonics Ic, Phase Angles  
(as delta to the phase angle of the fundamental component)

279 (23, 1, 0)	0	13, 36	yes	yes	yes	no	0, 1		S	Apparent power	VA
<b>Single-point indication (M_SP)</b>											
1001 (233, 3, 0)	1	1, 30	yes	yes	no	no	0, 7		Device OK	1: The device startup was successful, device ready	
1002 (234, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Battery fault	0: Battery voltage OK 1: Battery voltage is too low or battery does not exist	
1003 (235, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Rotating field clockwise	0: Rotating field direction anticlockwise 1: Rotating field direction clockwise	
1004 (236, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 1	Indication that a parametrized limiting value has been exceeded.  0: Parametrized limiting value is not exceeded or it is no measurand value parametrized as input of the measurand limit. 1: Limiting value of the measurand value to be monitored is exceeded Invalid: The measurand value to be monitored in invalid	
1005 (237, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 2		
1006 (238, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 3		
1007 (239, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 4		
1008 (240, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 5		
1009 (241, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 6		
1010 (242, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 7		
1011 (243, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 8		
1012 (244, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 9		
1013 (245, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 10		
1014 (246, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 11		
1015 (247, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 12		
1016 (248, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 13		
1017 (249, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 14		
1018 (250, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 15		
1019 (251, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Limit violation 16		
1020 (252, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Group indication 1	Group indications	
1021 (253, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Group indication 2		
1022 (254, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Group indication 3		
1023 (255, 3, 0)	0	1, 30	yes	yes	no	no	0, 7		Group indication 4		
1024 (0, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary output 1	Status of the binary outputs of SICAM MMU	
1025 (1, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary output 2		
1026 (2, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 1 from Remote	Return info of controllable indications intended for binary outputs or LEDs or Group indications in SICAM MMU	
1027 (3, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 2 from Remote		
1028 (4, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 3 from Remote		
1029 (5, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 4 from Remote		
1030 (6, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 5 from Remote		
1031 (7, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 6 from Remote		
1032 (8, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 7 from Remote		
1033 (9, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Indication 8 from Remote		
1034 (10, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Input 1-N I/O Unit	Binary inputs read from 7XV567 I/O Unit subdevice  Value = 0 and Status = invalid if <i>External I/O Unit OK</i> (IOA 1046) = 0 (i.e. when communication to I/O Unit is interrupted)	
1035 (11, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Input 2-N I/O Unit		
1036 (12, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Input 3-N I/O Unit		
1037 (13, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Input 1-P I/O Unit		
1038 (14, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Input 2-P I/O Unit		
1039 (15, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Input 3-P I/O Unit		
1040 (16, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Output 1-N I/O Unit		
1041 (17, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Output 2-N I/O Unit	Binary output status read from 7XV567 I/O Unit subdevice	
1042 (18, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Output 3-N I/O Unit		
1043 (19, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Output 1-P I/O Unit	Value = 0 and Status = invalid if <i>External I/O Unit OK</i> (IOA 1046) = 0	
1044 (20, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Output 2-P I/O Unit		

1045 (21, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		Binary Output 3-P I/O Unit	(i.e. when communication to I/O Unit is interrupted)	
1046 (22, 4, 0)	0	1, 30	yes	yes	no	no	0, 7		External I/O Unit OK	0: no communication with I/O Unit subdevice 1: communication to I/O unit is established	
<b>Single commands (C_SC)</b>											
2025 (233, 7, 0)	0	45	no	no	no	no	-	Direct	Reset energy	only the ON command is relevant	
2026 (234, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 1 from Remote	Controllable indications (e.g. for controlling of binary outputs or LEDs or Group indications in SICAM MMU)  Controllable indications intended for binary outputs in the 7XV567 I/O Unit subdevice.  Also usable for controlling of LEDs or processing in a Group indication in SICAM MMU if not used for I/O Unit subdevice	
2027 (235, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 2 from Remote		
2028 (236, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 3 from Remote		
2029 (237, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 4 from Remote		
2030 (238, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 5 from Remote		
2031 (239, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 6 from Remote		
2032 (240, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 7 from Remote		
2033 (241, 7, 0)	0	45	no	no	no	no	-	Direct	Indication 8 from Remote		
<b>Bitstring (M_BO)</b>											
3001 (185, 11, 0)	Serial no.	7	yes	no	no	no	0, 6		Serial number	Example: Device with BF0912088097 Serial number_1 = 88097dec = 15821hex Serial number_2 = 912dec = 390hex	
3002 (186, 11, 0)	Production date	7	yes	no	no	no	0, 6		Production date	Example: 0912decimal = Dezember 2009	
<b>Integrated total (M_IT, Counter)</b>											
4001 (161, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WPA_SUP	Active energy supply	
4002 (162, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WPB_SUP		
4003 (163, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WPC_SUP		
4004 (164, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WP_SUP		
4005 (165, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WPA_DMD	Active energy demand	
4006 (166, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WPB_DMD		
4007 (167, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WPC_DMD		
4008 (168, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WP_DMD		
4009 (169, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQA_IND	Reactive energy inductive	
4010 (170, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQB_IND		
4011 (171, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQC_IND		
4012 (172, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQ_IND		
4013 (173, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQA_CAP	Reactive energy capacitive	
4014 (174, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQB_CAP		
4015 (175, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQC_CAP		
4016 (176, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WQ_CAP		
4017 (177, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WSA	Apparent energy	
4018 (178, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WSB		
4019 (179, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WSC		
4020 (180, 15, 0)	0	15, 37	yes	yes	no	no	0, 1		WS		