A.7 Information List

NOTE: The following table lists all data which are available in the maximum complement of the device. Dependent on the ordered model, only those data may be present which are valid for the individual version.

The symbol ' **>** ' indicates that the source of the indication is a binary input.

O/O – ON / OFF
OUT – Output Indication
SP – Single Point Indication
IntSP – Internal Single Point Indication
SP_Ev – Spontaneous Event
DP – Double Point Indication
C – Command without Feedback
CF – Command with Feedback
MV – Measured Value
LV – Limit Value

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F#	Description	Type of Information	Log-Buffers				Configurable in Matrix								SCADA Interface					
															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
3	>Synchronize Internal Real Time Clock (>Time Synch)	SP_Ev					LED	BI		REL					O/O	GI	135	48	1	GI
5	>Reset LED (>Reset LED)	SP					LED	BI		REL					O/O	GI	135	50	1	GI
	>Back Light on (>Light on)	SP	O/O				LED	BI		REL	OM	FM			O/O	GI				
51	Device is Operational and Protecting (Device OK)	OUT	O/O				LED			REL					O/O	GI	135	81	1	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
52	At Least 1 Protection Funct. is Active (ProtActive)	IntSP	O/O				LED			REL					O/O	GI	160	18	1	GI
55	Reset Device (Reset Device)	OUT	O				LED			REL					O/O	GI				
56	Initial Start of Device (Initial Start)	OUT	O				LED			REL					O/O	GI	160	5	1	
60	Reset LED (Reset LED)	OUT	O				LED			REL					O/O	GI	160	19	1	
67	Resume (Resume)	OUT	O				LED			REL	OM	FM			O/O	GI				
68	Clock Synchronization Error (Clock Syn-cError)	OUT	O/O				LED			REL					O/O	GI				
69	Daylight Saving Time (DayLightSavTime)	OUT	O/O				LED			REL					O/O	GI				
110	Event lost (Event Lost)	OUT	O				LED			REL					O/O	GI	135	130	1	
113	Flag Lost (Flag Lost)	OUT	O			M	LED			REL					O/O	GI	135	136	1	GI
125	Chatter ON (Chatter ON)	OUT	O/O				LED			REL					O/O	GI	135	145	1	GI
140	Error with a summary alarm (Error Sum Alarm)	OUT	O/O				LED			REL					O/O	GI	160	47	1	GI
160	Alarm Summary Event (Alarm Sum Event)	OUT	O/O				LED			REL					O/O	GI	160	46	1	GI
178	I/O-Board Error (I/O-Board error)	OUT	O/O				LED			REL					O/O	GI				
144	Error 5V (Error 5V)	OUT	O/O				LED			REL					O/O	GI				
145	Error 0V (Error 0V)	OUT	O/O				LED			REL					O/O	GI				
146	Error -5V (Error -5V)	OUT	O/O				LED			REL					O/O	GI				

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
147	Error Power Supply (Error PwrSupply)	OUT	O/O				LED			REL					O/O	GI				
177	Failure: Battery empty (Fail Battery)	OUT	O/O				LED			REL					O/O	GI				
70	Setting calculation is running (Settings Calc.)	OUT	O/O				LED			REL					O/O	GI	160	22	1	GI
71	Settings Check (Settings Check)	OUT					LED			REL					O/O	GI				
72	Level-2 change (Level-2 change)	OUT	O/O				LED			REL					O/O	GI				
73	Local setting change (Local change)	OUT													O/O	GI				
183	Error Board 1 (Error Board 1)	OUT	O/O				LED			REL					O/O	GI				
184	Error Board 2 (Error Board 2)	OUT	O/O				LED			REL					O/O	GI				
185	Error Board 3 (Error Board 3)	OUT	O/O				LED			REL					O/O	GI				
186	Error Board 4 (Error Board 4)	OUT	O/O				LED			REL					O/O	GI				
187	Error Board 5 (Error Board 5)	OUT	O/O				LED			REL					O/O	GI				
188	Error Board 6 (Error Board 6)	OUT	O/O				LED			REL					O/O	GI				
189	Error Board 7 (Error Board 7)	OUT	O/O				LED			REL					O/O	GI				
301	Power System fault (Pow.Sys.Flt.)	OUT	O/O	O/O											O/O	GI	135	231	2	GI
302	Fault Event (Fault Event)	OUT		O											O/O	GI	135	232	2	GI
303	sensitive Ground fault (sens Gnd flt)	OUT	O/O		O										O/O	GI	135	233	1	GI
	Stop data transmission (DataStop)	IntSP	O/O				LED			REL					O/O	GI	160	20	1	GI
16	>Stop data transmission (>DataStop)	SP					LED	BI		REL					O/O	GI	135	54	1	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
	Test mode (Test mode)	IntSP	O/O				LED			REL					O/O	GI	160	21	1	GI
15	>Test mode (>Test mode)	SP					LED	BI		REL					O/O	GI	135	53	1	GI
	Feeder GROUNDED (Feeder gnd)	IntSP					LED			REL	OM	FM			O/O	GI				
	Breaker OPENED (Brk OPENED)	IntSP					LED			REL	OM	FM			O/O	GI				
	Hardware Test Mode (HWTestMod)	IntSP	O/O				LED			REL					O/O	GI				
	Clock Synchronization (SynchClock)	IntSP_Ev													O/O	GI				
5145	>Reverse Phase Rotation (>Reverse Rot.)	SP	O/O				LED	BI		REL					O/O	GI				
5147	Phase rotation ABC (Rotation ABC)	OUT	O/O				LED			REL					O/O	GI	70	128	1	GI
5148	Phase rotation ACB (Rotation ACB)	OUT	O/O				LED			REL					O/O	GI	70	129	1	GI
4	>Trigger Waveform Capture (>Trig.Wave.Cap.)	SP				M	LED	BI		REL					O/O	GI	135	49	1	GI
203	Waveform data deleted (Wave. deleted)	OUT	O				LED			REL					O/O	GI	135	203	1	
	Fault Recording Start (FltRecSta)	IntSP	O/O				LED			REL					O/O	GI				
7	>Setting Group Select Bit 0 (>Set Group Bit0)	SP					LED	BI		REL					O/O	GI	135	51	1	GI
8	>Setting Group Select Bit 1 (>Set Group Bit1)	SP					LED	BI		REL					O/O	GI	135	52	1	GI
	Group A (Group A)	IntSP	O/O				LED			REL					O/O	GI	160	23	1	GI
	Group B (Group B)	IntSP	O/O				LED			REL					O/O	GI	160	24	1	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
	Group C (Group C)	IntSP	O/O				LED			REL					O/O	GI	160	25	1	GI
	Group D (Group D)	IntSP	O/O				LED			REL					O/O	GI	160	26	1	GI
356	>Manual close signal (>Manual Close)	SP					LED	BI		REL					O/O	GI	150	6	1	GI
2720	>Enable 50/67-(N)-2 (override 79 blk) (>Enable ANSI#-2)	SP	O/O				LED	BI		REL					O/O	GI	40	20	1	GI
924	Wp Forward	MVMV															133	51	205	
925	Wq Forward	MVMV															133	52	205	
928	Wp Reverse	MVMV															133	53	205	
929	Wq Reverse	MVMV															133	54	205	
888	Pulsed Energy Wp (active)	PMV															133	55	205	
889	Pulsed Energy Wq (reactive)	PMV															133	56	205	
533	Primary fault current Ia (Ia =)	OUT		O/O											O/O	GI	150	177	4	
534	Primary fault current Ib (Ib =)	OUT		O/O											O/O	GI	150	178	4	
535	Primary fault current Ic (Ic =)	OUT		O/O											O/O	GI	150	179	4	
501	Relay PICKUP (Relay PICKUP)	OUT		O		M	LED			REL					O/O	GI	150	151	2	GI
511	Relay GENERAL TRIP command (Relay TRIP)	OUT		O		M	LED			REL					O/O	GI	150	161	2	GI
561	Manual close signal detected (Man.Clos.Detect)	OUT	O/O				LED			REL					O/O	GI				

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
4601	>52-a contact (OPEN, if bkr is open) (>52-a)	SP					LED	BI		REL					O/O	GI				
4602	>52-b contact (OPEN, if bkr is closed) (>52-b)	SP					LED	BI		REL					O/O	GI				
126	Protection ON/OFF (via system port) (ProtON/OFF)	IntSP	O/O				LED			REL					O/O	GI				
1761	50(N)/51(N) O/C PICKUP (50(N)/51(N) PU)	OUT		O/O		M	LED			REL					O/O	GI	160	84	2	GI
1791	50(N)/51(N) TRIP (50(N)/51(N)TRIP)	OUT		O		M	LED			REL					O/O	GI	160	68	2	
1704	>BLOCK 50/51 (>BLK 50/51)	SP					LED	BI		REL					O/O	GI				
1721	>BLOCK 50-2 (>BLOCK 50-2)	SP					LED	BI		REL					O/O	GI	60	1	1	GI
1722	>BLOCK 50-1 (>BLOCK 50-1)	SP					LED	BI		REL					O/O	GI	60	2	1	GI
1723	>BLOCK 51 (>BLOCK 51)	SP					LED	BI		REL					O/O	GI	60	3	1	GI
1751	50/51 O/C switched OFF (50/51 PH OFF)	OUT	O/O				LED			REL					O/O	GI	60	21	1	GI
1752	50/51 O/C is BLOCKED (50/51 PH BLK)	OUT	O/O	O/O			LED			REL					O/O	GI	60	22	1	GI
1753	50/51 O/C is ACTIVE (50/51 PH ACT)	OUT	O/O				LED			REL					O/O	GI	60	23	1	GI
1762	50/51 Phase A picked up (50/51 Ph A PU)	OUT		O/O		M	LED			REL					O/O	GI	160	64	2	GI
1763	50/51 Phase B picked up (50/51 Ph B PU)	OUT		O/O		M	LED			REL					O/O	GI	160	65	2	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
1764	50/51 Phase C picked up (50/51 Ph C PU)	OUT		O/O		M	LED			REL					O/O	GI	160	66	2	GI
1800	50-2 picked up (50-2 picked up)	OUT		O/O			LED			REL					O/O	GI	60	75	2	GI
1805	50-2 TRIP (50-2 TRIP)	OUT		O		M	LED			REL					O/O	GI	160	91	2	
1810	50-1 picked up (50-1 picked up)	OUT		O/O			LED			REL					O/O	GI	60	76	2	GI
1815	50-1 TRIP (50-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	160	90	2	
1820	51 picked up (51 picked up)	OUT		O/O			LED			REL					O/O	GI	60	77	2	GI
1825	51 TRIP (51 TRIP)	OUT		O		M	LED			REL					O/O	GI	60	58	2	GI
1866	51 Disk emulation Pickup (51 Disk PU)	OUT													O/O	GI				
1804	50-2 Time Out (50-2 TimeOut)	OUT					LED			REL					O/O	GI	60	49	2	GI
1814	50-1 Time Out (50-1 TimeOut)	OUT					LED			REL					O/O	GI	60	53	2	GI
1824	51 Time Out (51 Time Out)	OUT					LED			REL					O/O	GI	60	57	2	GI
1852	50-2 BLOCKED (50-2 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	106	1	GI
1851	50-1 BLOCKED (50-1 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	105	1	GI
1855	51 BLOCKED (51 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	109	1	GI
1714	>BLOCK 50N/51N (>BLK 50N/51N)	SP					LED	BI		REL					O/O	GI				
1724	>BLOCK 50N-2 (>BLOCK 50N-2)	SP					LED	BI		REL					O/O	GI	60	4	1	GI
1725	>BLOCK 50N-1 (>BLOCK 50N-1)	SP					LED	BI		REL					O/O	GI	60	5	1	GI
1726	>BLOCK 51N (>BLOCK 51N)	SP					LED	BI		REL					O/O	GI	60	6	1	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
1756	50N/51N is OFF (50N/51N OFF)	OUT	O/O				LED			REL					O/O	GI	60	26	1	GI
1757	50N/51N is BLOCKED (50N/51N BLK)	OUT	O/O	O/O			LED			REL					O/O	GI	60	27	1	GI
1758	50N/51N is ACTIVE (50N/51N ACT)	OUT	O/O				LED			REL					O/O	GI	60	28	1	GI
1765	50N/51N picked up (50N/51NPickedup)	OUT		O/O		M	LED			REL					O/O	GI	160	67	2	GI
1831	50N-2 picked up (50N-2 picked up)	OUT		O/O			LED			REL					O/O	GI	60	59	2	GI
1833	50N-2 TRIP (50N-2 TRIP)	OUT		O		M	LED			REL					O/O	GI	160	93	2	
1834	50N-1 picked up (50N-1 picked up)	OUT		O/O			LED			REL					O/O	GI	60	62	2	GI
1836	50N-1 TRIP (50N-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	160	92	2	
1837	51N picked up (51N picked up)	OUT		O/O			LED			REL					O/O	GI	60	64	2	GI
1839	51N TRIP (51N TRIP)	OUT		O		M	LED			REL					O/O	GI	60	66	2	GI
1867	51N Disk emulation picked up (51N Disk Pickup)	OUT													O/O	GI				
1832	50N-2 Time Out (50N-2 TimeOut)	OUT					LED			REL					O/O	GI	60	60	2	GI
1835	50N-1 Time Out (50N-1 TimeOut)	OUT					LED			REL					O/O	GI	60	63	2	GI
1838	51N Time Out (51N TimeOut)	OUT					LED			REL					O/O	GI	60	65	2	GI
1854	50N-2 BLOCKED (50N-2 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	108	1	GI
1853	50N-1 BLOCKED (50N-1 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	107	1	GI
1856	51N BLOCKED (51N BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	110	1	GI

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7563	>BLOCK InRush Phase (>BLOCK InRushPh)	SP					LED	BI		REL					O/O	GI				
1840	Phase A trip blocked by inrush detection (PhA InrushBlk)	OUT		O/O			LED			REL					O/O	GI	60	101	2	GI
1841	Phase B trip blocked by inrush detection (PhB InrushBlk)	OUT		O/O			LED			REL					O/O	GI	60	102	2	GI
1842	Phase C trip blocked by inrush detection (PhC InrushBlk)	OUT		O/O			LED			REL					O/O	GI	60	103	2	GI
1843	Cross blk: PhX blocked PhY (INRUSH X-BLK)	OUT		O/O			LED			REL					O/O	GI	60	104	2	GI
7551	50-1 InRush picked up (50-1 InRushPU)	OUT		O/O			LED			REL					O/O	GI	60	80	2	GI
7552	50N-1 InRush picked up (50N-1 InRushPU)	OUT		O/O			LED			REL					O/O	GI	60	81	2	GI
7553	51 InRush picked up (51 InRushPU)	OUT		O/O			LED			REL					O/O	GI	60	82	2	GI
7554	51N InRush picked up (51N InRushPU)	OUT		O/O			LED			REL					O/O	GI	60	83	2	GI
7556	InRush OFF (InRush OFF)	OUT	O/O				LED			REL					O/O	GI	60	92	1	GI
7557	InRush Phase BLOCKED (InRushPh-BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	93	1	GI
7558	InRush Ground BLOCKED (InRush Gnd BLK)	OUT		O/O			LED			REL					O/O	GI	60	94	1	GI
7559	67-1 InRush picked up (67-1 InRushPU)	OUT		O/O			LED			REL					O/O	GI	60	84	2	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
7560	67N-1 InRush picked up (67N-1 InRus-hPU)	OUT		O/O			LED			REL					O/O	GI	60	85	2	GI
7561	67-TOC InRush picked up (67-TOC InRushPU)	OUT		O/O			LED			REL					O/O	GI	60	86	2	GI
7562	67N-TOC InRush picked up (67N-TOCIn-RushPU)	OUT		O/O			LED			REL					O/O	GI	60	87	2	GI
7565	Phase A InRush picked up (Ia InRush PU)	OUT		O/O			LED			REL					O/O	GI	60	89	2	GI
7566	Phase B InRush picked up (Ib InRush PU)	OUT		O/O			LED			REL					O/O	GI	60	90	2	GI
7567	Phase C InRush picked up (Ic InRush PU)	OUT		O/O			LED			REL					O/O	GI	60	91	2	GI
7564	Ground InRush picked up (Gnd InRush PU)	OUT		O/O			LED			REL					O/O	GI	60	88	2	GI
2691	67/67N picked up (67/67N pickedup)	OUT		O/O		M	LED			REL					O/O	GI	63	50	2	GI
2696	67/67N TRIP (67/67N TRIP)	OUT		O		M	LED			REL					O/O	GI	63	55	2	GI
2604	>BLOCK 67/67-TOC (>BLK 67/67-TOC)	SP					LED	BI		REL					O/O	GI				
2615	>BLOCK 67-2 (>BLOCK 67-2)	SP					LED	BI		REL					O/O	GI	63	73	1	GI
2621	>BLOCK 67-1 (>BLOCK 67-1)	SP					LED	BI		REL					O/O	GI	63	1	1	GI
2622	>BLOCK 67-TOC (>BLOCK 67-TOC)	SP					LED	BI		REL					O/O	GI	63	2	1	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
2651	67/67-TOC switched OFF (67/67-TOC OFF)	OUT	O/O				LED			REL					O/O	GI	63	10	1	GI
2652	67/67-TOC is BLOCKED (67 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	11	1	GI
2653	67/67-TOC is ACTIVE (67 ACTIVE)	OUT	O/O				LED			REL					O/O	GI	63	12	1	GI
2642	67-2 picked up (67-2 picked up)	OUT		O/O			LED			REL					O/O	GI	63	67	2	GI
2649	67-2 TRIP (67-2 TRIP)	OUT		O		M	LED			REL					O/O	GI	63	72	2	GI
2660	67-1 picked up (67-1 picked up)	OUT		O/O			LED			REL					O/O	GI	63	20	2	GI
2665	67-1 TRIP (67-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	63	25	2	GI
2670	67-TOC picked up (67-TOC pickedup)	OUT		O/O			LED			REL					O/O	GI	63	30	2	GI
2675	67-TOC TRIP (67-TOC TRIP)	OUT		O		M	LED			REL					O/O	GI	63	35	2	GI
2692	67/67-TOC Phase A picked up (67 A picked up)	OUT		O/O			LED			REL					O/O	GI	63	51	2	GI
2693	67/67-TOC Phase B picked up (67 B picked up)	OUT		O/O			LED			REL					O/O	GI	63	52	2	GI
2694	67/67-TOC Phase C picked up (67 C picked up)	OUT		O/O			LED			REL					O/O	GI	63	53	2	GI
2647	67-2 Time Out (67-2 Time Out)	OUT					LED			REL					O/O	GI	63	71	2	GI
2664	67-1 Time Out (67-1 Time Out)	OUT					LED			REL					O/O	GI	63	24	2	GI
2674	67-TOC Time Out (67-TOC Time Out)	OUT					LED			REL					O/O	GI	63	34	2	GI
2628	Phase A forward (Phase A forward)	OUT	O				LED			REL					O/O	GI	63	81	1	GI

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F#	Description	Type of Information	Log-Buffers				Configurable in Matrix								SCADA Interface					
															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
2629	Phase B forward (Phase B forward)	OUT	O				LED			REL					O/O	GI	63	82	1	GI
2630	Phase C forward (Phase C forward)	OUT	O				LED			REL					O/O	GI	63	83	1	GI
2632	Phase A reverse (Phase A reverse)	OUT	O				LED			REL					O/O	GI	63	84	1	GI
2633	Phase B reverse (Phase B reverse)	OUT	O				LED			REL					O/O	GI	63	85	1	GI
2634	Phase C reverse (Phase C reverse)	OUT	O				LED			REL					O/O	GI	63	86	1	GI
2637	67-1 is BLOCKED (67-1 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	91	1	GI
2655	67-2 is BLOCKED (67-2 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	92	1	GI
2669	67-TOC is BLOCKED (67-TOC BLOK-KED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	95	1	GI
2676	67-TOC disk emulation is ACTIVE (67-TOC DiskPU)	OUT													O/O	GI				
2614	>BLOCK 67N/67N-TOC (>BLK 67N/ 67NTOC)	SP					LED	BI		REL					O/O	GI				
2616	>BLOCK 67N-2 (>BLOCK 67N-2)	SP					LED	BI		REL					O/O	GI	63	74	1	GI
2623	>BLOCK 67N-1 (>BLOCK 67N-1)	SP					LED	BI		REL					O/O	GI	63	3	1	GI
2624	>BLOCK 67N-TOC (>BLOCK 67N-TOC)	SP					LED	BI		REL					O/O	GI	63	4	1	GI
2656	67N/67N-TOC switched OFF (67N OFF)	OUT	O/O				LED			REL					O/O	GI	63	13	1	GI
2657	67N/67N-TOC is BLOCKED (67N BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	14	1	GI
2658	67N/67N-TOC is ACTIVE (67N ACTIVE)	OUT	O/O				LED			REL					O/O	GI	63	15	1	GI

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F#	Description	Type of Informa-tion	Log-Buffers				Configurable in Matrix								SCADA Interface					
															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
2646	67N-2 picked up (67N-2 picked up)	OUT		O/O			LED			REL					O/O	GI	63	62	2	GI
2679	67-2 TRIP (67N-2 TRIP)	OUT		O		M	LED			REL					O/O	GI	63	64	2	GI
2681	67N-1 picked up (67N-1 picked up)	OUT		O/O			LED			REL					O/O	GI	63	41	2	GI
2683	67N-1 TRIP (67N-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	63	43	2	GI
2684	67N-TOC picked up (67N-TOCPicke-dup)	OUT		O/O			LED			REL					O/O	GI	63	44	2	GI
2686	67N-TOC TRIP (67N-TOC TRIP)	OUT		O		M	LED			REL					O/O	GI	63	46	2	GI
2695	67N/67N-TOC picked up (67N picked up)	OUT		O/O			LED			REL					O/O	GI	63	54	2	GI
2648	67N-2 Time Out (67N-2 Time Out)	OUT					LED			REL					O/O	GI	63	63	2	GI
2682	67N-1 Time Out (67N-1 Time Out)	OUT					LED			REL					O/O	GI	63	42	2	GI
2685	67N-TOC Time Out (67N-TOC TimeOut)	OUT					LED			REL					O/O	GI	63	45	2	GI
2636	Ground reverse (Ground reverse)	OUT	O				LED			REL					O/O	GI	63	88	1	GI
2635	Ground forward (Ground forward)	OUT	O				LED			REL					O/O	GI	63	87	1	GI
2668	67N-2 is BLOCKED (67N-2 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	94	1	GI
2659	67N-1 is BLOCKED (67N-1 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	93	1	GI
2677	67N-TOC is BLOCKED (67N-TOC BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	63	96	1	GI
2687	67N-TOC disk emulation is ACTIVE (67N-TOC Disk PU)	OUT													O/O	GI				

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
1730	>BLOCK Cold-Load-Pickup (>BLOCK CLP)	SP					LED	BI		REL					O/O	GI				
1731	>BLOCK Cold-Load-Pickup stop timer (>BLK CLP stpTim)	SP	O/O				LED	BI		REL					O/O	GI	60	243	1	GI
1994	Cold-Load-Pickup switched OFF (CLP OFF)	OUT	O/O				LED			REL					O/O	GI	60	244	1	GI
1995	Cold-Load-Pickup is BLOCKED (CLP BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	60	245	1	GI
1996	Cold-Load-Pickup is RUNNING (CLP running)	OUT	O/O				LED			REL					O/O	GI	60	246	1	GI
1997	Dynamic settings are ACTIVE (Dyn set. ACTIVE)	OUT	O/O				LED			REL					O/O	GI	60	247	1	GI
6503	>BLOCK 27 undervoltage protection (>BLOCK 27)	SP					LED	BI		REL					O/O	GI	74	3	1	GI
6505	>27-Switch current supervision ON (>27 I SUPRVSN)	SP	O/O				LED	BI		REL					O/O	GI	74	5	1	GI
6506	>BLOCK 27-1 Undervoltage protection (>BLOCK 27-1)	SP	O/O				LED	BI		REL					O/O	GI	74	6	1	GI
6508	>BLOCK 27-2 Undervoltage protection (>BLOCK 27-2)	SP	O/O				LED	BI		REL					O/O	GI	74	8	1	GI
6530	27 Undervoltage protection switched OFF (27 OFF)	OUT	O/O				LED			REL					O/O	GI	74	30	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
6531	27 Undervoltage protection is BLOCKED (27 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	74	31	1	GI
6532	27 Undervoltage protection is ACTIVE (27 ACTIVE)	OUT	O/O				LED			REL					O/O	GI	74	32	1	GI
6533	27-1 Undervoltage picked up (27-1 pik-ked up)	OUT		O/O			LED			REL					O/O	GI	74	33	2	GI
6534	27-1 Undervoltage PICKUP w/curr. superv (27-1 PU CS)	OUT		O/O			LED			REL					O/O	GI	74	34	2	GI
6537	27-2 Undervoltage picked up (27-2 pik-ked up)	OUT		O/O			LED			REL					O/O	GI	74	37	2	GI
6538	27-2 Undervoltage PICKUP w/curr. superv (27-2 PU CS)	OUT		O/O			LED			REL					O/O	GI	74	38	2	GI
6539	27-1 Undervoltage TRIP (27-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	74	39	2	GI
6540	27-2 Undervoltage TRIP (27-2 TRIP)	OUT		O		M	LED			REL					O/O	GI	74	40	2	GI
6513	>BLOCK 59-1 overvoltage protection (>BLOCK 59-1)	SP					LED	BI		REL					O/O	GI	74	13	1	GI
6565	59-Overvoltage protection switched OFF (59 OFF)	OUT	O/O				LED			REL					O/O	GI	74	65	1	GI
6566	59-Overvoltage protection is BLOCKED (59 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	74	66	1	GI
6567	59-Overvoltage protection is ACTIVE (59 ACTIVE)	OUT	O/O				LED			REL					O/O	GI	74	67	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
6568	59 picked up (59-1 picked up)	OUT		O/O			LED			REL					O/O	GI	74	68	2	GI
6570	59 TRIP (59-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	74	70	2	GI
5143	>BLOCK 46 (>BLOCK 46)	SP					LED	BI		REL					O/O	GI	70	126	1	GI
5151	46 switched OFF (46 OFF)	OUT	O/O				LED			REL					O/O	GI	70	131	1	GI
5152	46 is BLOCKED (46 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	70	132	1	GI
5153	46 is ACTIVE (46 ACTIVE)	OUT	O/O				LED			REL					O/O	GI	70	133	1	GI
5159	46-2 picked up (46-2 picked up)	OUT		O/O			LED			REL					O/O	GI	70	138	2	GI
5165	46-1 picked up (46-1 picked up)	OUT		O/O			LED			REL					O/O	GI	70	150	2	GI
5166	46-TOC picked up (46-TOC pickedup)	OUT		O/O			LED			REL					O/O	GI	70	141	2	GI
5170	46 TRIP (46 TRIP)	OUT		O		M	LED			REL					O/O	GI	70	149	2	GI
5171	46 Disk emulation picked up (46 Dsk pik-kedup)	OUT					LED			REL					O/O	GI				
6801	>BLOCK Startup Supervision (>BLK START-SUP)	SP					LED	BI		REL					O/O	GI				
6805	>Rotor locked (>Rotor locked)	SP					LED	BI		REL					O/O	GI				
6811	Startup supervision OFF (START-SUP OFF)	OUT	O/O				LED			REL					O/O	GI	169	51	1	GI
6812	Startup supervision is BLOCKED (START-SUP BLK)	OUT	O/O	O/O			LED			REL					O/O	GI	169	52	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
6813	Startup supervision is ACTIVE (START-SUP ACT)	OUT	O/O				LED			REL					O/O	GI	169	53	1	GI
6821	Startup supervision TRIP (START-SUP TRIP)	OUT		O		M	LED			REL					O/O	GI	169	54	2	GI
6822	Rotor locked (Rotor locked)	OUT		O			LED			REL					O/O	GI	169	55	2	GI
6823	Startup supervision Pickup (START-SUP pu)	OUT	O/O				LED			REL					O/O	GI	169	56	1	GI
4822	>BLOCK Motor Startup counter (>BLOCK 66)	SP					LED	BI		REL					O/O	GI				
4823	>Emergency start (>66 emer.start)	SP	O/O				LED	BI		REL					O/O	GI	168	51	1	GI
4824	66 Motor start protection OFF (66 OFF)	OUT	O/O				LED			REL					O/O	GI	168	52	1	GI
4825	66 Motor start protection BLOCKED (66 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	168	53	1	GI
4826	66 Motor start protection ACTIVE (66 ACTIVE)	OUT	O/O				LED			REL					O/O	GI	168	54	1	GI
4827	66 Motor start protection TRIP (66 TRIP)	OUT	O/O				LED			REL					O/O	GI	168	55	1	GI
5203	>BLOCK 81O/U (>BLOCK 81O/U)	SP	O/O				LED	BI		REL					O/O	GI	70	176	1	GI
5206	>BLOCK 81-1 (>BLOCK 81-1)	SP	O/O				LED	BI		REL					O/O	GI	70	177	1	GI
5207	>BLOCK 81-2 (>BLOCK 81-2)	SP	O/O				LED	BI		REL					O/O	GI	70	178	1	GI
5208	>BLOCK 81-3 (>BLOCK 81-3)	SP	O/O				LED	BI		REL					O/O	GI	70	179	1	GI
5209	>BLOCK 81-4 (>BLOCK 81-4)	SP	O/O				LED	BI		REL					O/O	GI	70	180	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
5211	81 OFF (81 OFF)	OUT	O/O				LED			REL					O/O	GI	70	181	1	GI
5212	81 BLOCKED (81 BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	70	182	1	GI
5213	81 ACTIVE (81 ACTIVE)	OUT	O/O				LED			REL					O/O	GI	70	183	1	GI
5214	81 Under Voltage Block (81 Under V Blk)	OUT	O/O	O/O			LED			REL					O/O	GI	70	184	1	GI
5232	81-1 picked up (81-1 picked up)	OUT		O/O			LED			REL					O/O	GI	70	230	2	GI
5233	81-2 picked up (81-2 picked up)	OUT		O/O			LED			REL					O/O	GI	70	231	2	GI
5234	81-3 picked up (81-3 picked up)	OUT		O/O			LED			REL					O/O	GI	70	232	2	GI
5235	81-4 picked up (81-4 picked up)	OUT		O/O			LED			REL					O/O	GI	70	233	2	GI
5236	81-1 TRIP (81-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	70	234	2	GI
5237	81-2 TRIP (81-2 TRIP)	OUT		O		M	LED			REL					O/O	GI	70	235	2	GI
5238	81-3 TRIP (81-3 TRIP)	OUT		O		M	LED			REL					O/O	GI	70	236	2	GI
5239	81-4 TRIP (81-4 TRIP)	OUT		O		M	LED			REL					O/O	GI	70	237	2	GI
1503	>BLOCK 49 Overload Protection (>BLOCK 49 O/L)	SP					LED	BI		REL					O/O	GI	167	3	1	GI
1507	>Emergency start of motors (>EmergencyStart)	SP	O/O				LED	BI		REL					O/O	GI	167	7	1	GI
1511	49 Overload Protection is OFF (49 O / L OFF)	OUT	O/O				LED			REL					O/O	GI	167	11	1	GI
1512	49 Overload Protection is BLOCKED (49 O/L BLOCK)	OUT	O/O	O/O			LED			REL					O/O	GI	167	12	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
1513	49 Overload Protection is ACTIVE (49 O/L ACTIVE)	OUT	O/O				LED			REL					O/O	GI	167	13	1	GI
1515	49 Overload Current Alarm (I alarm) (49 O/L I Alarm)	OUT	O/O				LED			REL					O/O	GI	167	15	1	GI
1516	49 Overload Alarm! Near Thermal Trip (49 O/L Θ Alarm)	OUT	O/O				LED			REL					O/O	GI	167	16	1	GI
1517	49 Winding Overload (49 Winding O/L)	OUT	O/O				LED			REL					O/O	GI	167	17	1	GI
1521	49 Thermal Overload TRIP (49 Th O/L TRIP)	OUT		O		M	LED			REL					O/O	GI	167	21	2	GI
162	Failure: Current Summation (Failure Σ I)	OUT	O/O				LED			REL					O/O	GI	135	182	1	GI
163	Failure: Current Balance (Fail I balance)	OUT	O/O				LED			REL					O/O	GI	135	183	1	GI
167	Failure: Voltage Balance (Fail V balance)	OUT	O/O				LED			REL					O/O	GI	135	186	1	GI
161	Failure: general Current Supervision (Fail I Superv.)	OUT	O/O				LED			REL					O/O	GI	160	32	1	GI
171	Failure: Phase Sequence (Fail Ph. Seq.)	OUT	O/O				LED			REL					O/O	GI	160	35	1	GI
176	Failure: Phase Sequence Voltage (Fail Ph. Seq. V)	OUT	O/O				LED			REL					O/O	GI	135	192	1	GI
175	Failure: Phase Sequence Current (Fail Ph. Seq. I)	OUT	O/O				LED			REL					O/O	GI	135	191	1	GI
197	Measurement Supervision is switched OFF (MeasSup OFF)	OUT	O/O				LED			REL					O/O	GI	135	197	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
6509	>Failure: Feeder VT (>FAIL:FEEDER VT)	SP	O/O				LED	BI		REL					O/O	GI	74	9	1	GI
6510	>Failure: Busbar VT (>FAIL: BUS VT)	SP	O/O				LED	BI		REL					O/O	GI	74	10	1	GI
6575	Voltage Transformer Fuse Failure (VT Fuse Failure)	OUT	O/O				LED			REL					O/O	GI	74	74	1	GI
6851	>BLOCK 74TC (>BLOCK 74TC)	SP					LED	BI		REL					O/O	GI				
6853	>74TC Trip circuit superv.: bkr relay (>74TC brk rel.)	SP	O/O				LED	BI		REL					O/O	GI	170	52	1	GI
6852	>74TC Trip circuit superv.: trip relay (>74TC trip rel.)	SP	O/O				LED	BI		REL					O/O	GI	170	51	1	GI
6861	74TC Trip circuit supervision OFF (74TC OFF)	OUT	O/O				LED			REL					O/O	GI	170	53	1	GI
6862	74TC Trip circuit supervision is BLOKKED (74TC BLOCKED)	OUT	O/O	O/O			LED			REL					O/O	GI	153	16	1	GI
6863	74TC Trip circuit supervision is ACTIVE (74TC ACTIVE)	OUT	O/O				LED			REL					O/O	GI	153	17	1	GI
6864	74TC blocked. Bin. input is not set (74TC ProgFail)	OUT	O/O				LED			REL					O/O	GI	170	54	1	GI
6865	74TC Failure Trip Circuit (FAIL: Trip cir.)	OUT	O/O				LED			REL					O/O	GI	170	55	1	GI
1201	>BLOCK 64 (>BLOCK 64)	SP	O/O				LED	BI		REL					O/O	GI	151	101	1	GI
1202	>BLOCK 50Ns-2 (>BLOCK 50Ns-2)	SP	O/O				LED	BI		REL					O/O	GI	151	102	1	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
1203	>BLOCK 50Ns-1 (>BLOCK 50Ns-1)	SP	O/O				LED	BI		REL					O/O	GI	151	103	1	GI
1204	>BLOCK 51Ns (>BLOCK 51Ns)	SP	O/O				LED	BI		REL					O/O	GI	151	104	1	GI
1207	>BLOCK 50Ns/67Ns (>BLK 50Ns/67Ns)	SP	O/O				LED	BI		REL					O/O	GI	151	107	1	GI
1211	50Ns/67Ns is OFF (50Ns/67Ns OFF)	OUT	O/O				LED			REL					O/O	GI	151	111	1	GI
1212	50Ns/67Ns is ACTIVE (50Ns/67Ns ACT)	OUT	O/O				LED			REL					O/O	GI	151	112	1	GI
1215	64 displacement voltage pick up (64 PU)	OUT		O/O			LED			REL					O/O	GI	151	115	2	GI
1217	64 displacement voltage element TRIP (64 TRIP)	OUT		O		M	LED			REL					O/O	GI	151	117	2	GI
1221	50Ns-2 Pickup (50Ns-2 Pickup)	OUT		O/O			LED			REL					O/O	GI	151	121	2	GI
1223	50Ns-2 TRIP (50Ns-2 TRIP)	OUT		O		M	LED			REL					O/O	GI	151	123	2	GI
1224	50Ns-1 Pickup (50Ns-1 Pickup)	OUT		O/O			LED			REL					O/O	GI	151	124	2	GI
1226	50Ns-1 TRIP (50Ns-1 TRIP)	OUT		O		M	LED			REL					O/O	GI	151	126	2	GI
1227	51Ns picked up (51Ns Pickup)	OUT		O/O			LED			REL					O/O	GI	151	127	2	GI
1229	51Ns TRIP (51Ns TRIP)	OUT		O		M	LED			REL					O/O	GI	151	129	2	GI
1230	Sensitive ground fault detection BLOK-KED (Sens. Gnd block)	OUT	O/O	O/O			LED			REL					O/O	GI	151	130	1	GI
1272	Sensitive Ground fault picked up in Ph A (Sens. Gnd Ph A)	OUT	O/O	O	O		LED			REL					O/O	GI	160	48	1	GI
1273	Sensitive Ground fault picked up in Ph B (Sens. Gnd Ph B)	OUT	O/O	O	O		LED			REL					O/O	GI	160	49	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
1274	Sensitive Ground fault picked up in Ph C (Sens. Gnd Ph C)	OUT	O/O	O	O		LED			REL					O/O	GI	160	50	1	GI
1276	Sensitive Gnd fault in forward direction (SensGnd Forward)	OUT	O/O	O	O		LED			REL					O/O	GI	160	51	1	GI
1277	Sensitive Gnd fault in reverse direction (SensGnd Reverse)	OUT	O/O	O	O		LED			REL					O/O	GI	160	52	1	GI
1278	Sensitive Gnd fault direction undefined (SensGnd undef.)	OUT	O/O	O	O		LED			REL					O/O	GI	151	178	1	GI
2701	>79 ON (>79 ON)	SP					LED	BI		REL					O/O	GI	40	1	1	GI
2702	>79 OFF (>79 OFF)	SP					LED	BI		REL					O/O	GI	40	2	1	GI
2703	>BLOCK 79 (>BLOCK 79)	SP	O/O				LED	BI		REL					O/O	GI	40	3	1	GI
2705	>79 T Wait (coordination control) (>79 T WAIT)	SP	O/O				LED	BI		REL					O/O	GI	40	10	1	GI
2730	>Circuit breaker READY for reclosing (>CB Ready)	SP	O/O				LED	BI		REL					O/O	GI	40	30	1	GI
2715	>79 Ext. 1pole TRIP for internal A/R (>79 TRIP 1p)	SP					LED	BI		REL					O/O	GI	40	15	1	GI
2716	>79 Ext. 3pole TRIP for internal A/R (>79 TRIP 3p)	SP					LED	BI		REL					O/O	GI	40	16	1	GI
2722	>Switch zone sequence coordination ON (>ZSC ON)	SP					LED	BI		REL					O/O	GI				

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F#	Description	Type of Information	Log-Buffers				Configurable in Matrix								SCADA Interface					
															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
2723	>Switch zone sequence coordination OFF (>ZSC OFF)	SP					LED	BI		REL					O/O	GI				
2781	79 Auto recloser is switched OFF (79 OFF)	OUT	O/O				LED			REL					O/O	GI	40	81	1	GI
2782	79 Auto recloser is switched ON (79 ON)	IntSP					LED			REL					O/O	GI	160	16	1	GI
2784	Circuit breaker is NOT ready (CB is NOT ready)	OUT	O/O	O/O			LED			REL					O/O	GI	160	130	1	GI
2785	79 - Auto-reclose is dynamically BLOK-KED (79 DynBlock)	OUT	O/O	O/O			LED			REL					O/O	GI	40	85	1	GI
2801	79 - in progress (79 in progress)	OUT	O				LED			REL					O/O	GI	40	101	1	GI
2851	79 - Close command (79 Close)	OUT		O		M	LED			REL					O/O	GI	160	128	1	
2862	79 - cycle successful (79 Successful)	OUT	O				LED			REL					O/O	GI	40	162	1	GI
2863	79 - Lockout (79 Lockout)	OUT					LED			REL					O/O	GI	40	163	2	GI
2869	TRIP Ground Fault (TRIP Gnd Fault)	OUT		O/O			LED			REL					O/O	GI				
2870	TRIP Phase Fault (TRIP Ph Fault)	OUT		O/O			LED			REL					O/O	GI				
2876	79-A/R attempt step (79 STEP)	OUT		O/O											O/O	GI	40	182	2	GI
2878	79-A/R single phase reclosing sequence (79 L-N Sequence)	OUT		O			LED			REL					O/O	GI	40	180	2	GI
2879	79-A/R multi-phase reclosing sequence (79 L-L Sequence)	OUT		O			LED			REL					O/O	GI	40	181	2	GI
2883	Zone Sequencing is active (ZSC active)	OUT	O				LED			REL					O/O	GI				

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
2884	Zone sequence coordination switched ON (ZSC ON)	OUT					LED			REL					O/O	GI				
2885	Zone sequence coordination switched OFF (ZSC OFF)	OUT	O/O				LED			REL					O/O	GI				
127	79 ON/OFF (via system port) (79 ON/ OFF)	IntSP	O/O				LED			REL					O/O	GI				
1106	>Start Fault Locator (>Start Flt. Loc)	SP	O				LED	BI		REL					O/O	GI	151	6	1	GI
1118	Flt Locator: secondary REACTANCE (Xsec =)	OUT		O/O											O/O	GI	151	18	4	
1119	Flt Locator: Distance to fault (dist =)	OUT		O/O											O/O	GI	151	19	4	
1123	Fault Locator Loop AG (FL Loop AG)	OUT		O											O/O	GI				
1124	Fault Locator Loop BG (FL Loop BG)	OUT		O											O/O	GI				
1125	Fault Locator Loop CG (FL Loop CG)	OUT		O											O/O	GI				
1126	Fault Locator Loop AB (FL Loop AB)	OUT		O											O/O	GI				
1127	Fault Locator Loop BC (FL Loop BC)	OUT		O											O/O	GI				
1128	Fault Locator Loop CA (FL Loop CA)	OUT		O											O/O	GI				
1132	Fault location invalid (Flt.Loc.invalid)	OUT		O											O/O	GI				
1403	>BLOCK 50BF (>BLOCK 50BF)	SP	O/O				LED	BI		REL					O/O	GI	166	103	1	GI
1431	>50BF initiated externally (>50BF ext SRC)	SP	O/O				LED	BI		REL					O/O	GI	166	104	1	GI

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
1451	50BF is switched OFF (50BF OFF)	OUT	O/O				LED			REL					O/O	GI	166	151	1	GI
1452	50BF is BLOCKED (50BF BLOCK)	OUT	O/O	O/O			LED			REL					O/O	GI	166	152	1	GI
1453	50BF is ACTIVE (50BF ACTIVE)	OUT	O/O				LED			REL					O/O	GI	166	153	1	GI
1456	50BF (internal) PICKUP (50BF int PU)	OUT		O/O			LED			REL					O/O	GI	166	156	2	GI
1457	50BF (external) PICKUP (50BF ext PU)	OUT		O/O			LED			REL					O/O	GI	166	157	2	GI
1471	50BF TRIP (50BF TRIP)	OUT		O		M	LED			REL					O/O	GI	160	85	2	
1480	50BF (internal) TRIP (50BF int TRIP)	OUT		O			LED			REL					O/O	GI	166	180	2	GI
1481	50BF (external) TRIP (50BF ext TRIP)	OUT		O			LED			REL					O/O	GI	166	181	2	GI
	Control Authority (Cntrl Auth)	DP	O/O				LED								O/O	GI	101	85	1	GI
	Controlmode LOCAL (ModeLOCAL)	DP	O/O				LED								O/O	GI	101	86	1	GI
	Controlmode REMOTE (ModeREMOTE)	IntSP	O/O				LED								O/O	GI				
	Control DIGSI (CntrlDIGSI)	LV	O/O												O/O	GI				
	52 Breaker (52Breaker)	CF_D12	O/O							REL	OM				O/O	GI	240	160	1	GI
	52 Breaker (52Breaker)	DP	O/O					BI			OM			CB	O/O	GI	240	160	1	GI
	Disconnect Switch (Disc.Swit.)	CF_D2	O/O							REL	OM				O/O	GI	240	161	1	GI
	Disconnect Switch (Disc.Swit.)	DP	O/O					BI			OM			CB	O/O	GI	240	161	1	GI
	Ground Switch (GndSwit.)	CF_D2	O/O							REL	OM				O/O	GI	240	164	1	GI
	Ground Switch (GndSwit.)	DP	O/O					BI			OM			CB	O/O	GI	240	164	1	GI
	Interlocking: 52 Open (52 Open)	IntSP													O/O					

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
	Interlocking: 52 Close (52 Close)	IntSP													O/O					
	Interlocking: Disconnect switch Open (Disc.Open)	IntSP													O/O					
	Interlocking: Disconnect switch Close (Disc.Close)	IntSP													O/O					
	Interlocking: Ground switch Open (GndSw Open)	IntSP													O/O					
	Interlocking: Ground switch Close (GndSw Cl.)	IntSP													O/O					
	Block Data Transmission to SCADA (Block Data)	IntSP													O/O					
	Q2 Open/Close (Q2 Op/Cl)	CF_D2	O/O							REL	OM				O/O	GI	240	162	1	GI
	Q2 Open/Close (Q2 Op/Cl)	DP	O/O					BI			OM			CB	O/O	GI	240	162	1	GI
	Q9 Open/Close (Q9 Op/Cl)	CF_D2	O/O							REL	OM				O/O	GI	240	163	1	GI
	Q9 Open/Close (Q9 Op/Cl)	DP	O/O					BI			OM			CB	O/O	GI	240	163	1	GI
	Fan ON/OFF (Fan ON/OFF)	CF_D2	O/O							REL	OM				O/O	GI	240	175	1	GI
	Fan ON/OFF (Fan ON/OFF)	DP	O/O					BI			OM			CB	O/O	GI	240	175	1	GI
	>CB ready Spring is charged (>CB ready)	SP					LED	BI		REL	OM			CB	O/O	GI				
	>Door closed (>DoorClose)	SP					LED	BI		REL	OM			CB	O/O	GI				
	>Cabinet door open (>Door open)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	101	1	1	GI

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
	>CB waiting for Spring charged (>CB wait)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	101	2	1	GI
	>No Voltage (Fuse blown) (>No Volt.)	SP	O/O				LED	BI		REL				CB	O/O	GI	160	38	1	GI
	>Error Motor Voltage (>Err Mot V)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	240	181	1	GI
	>Error Control Voltage (>ErrCntrlV)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	240	182	1	GI
	>SF6-Loss (>SF6-Loss)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	240	183	1	GI
	>Error Meter (>Err Meter)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	240	184	1	GI
	>Transformer Temperature (>Tx Temp.)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	240	185	1	GI
	>Transformer Danger (>Tx Danger)	SP	O/O				LED	BI		REL	OM			CB	O/O	GI	240	186	1	GI
601	Ia (Ia =)	MV													O/O	GI	134	137	9	
602	Ib (Ib =)	MV													O/O	GI	160 134	145 137	3 9	
603	Ic (Ic =)	MV													O/O	GI	134	137	9	
604	In (In =)	MV													O/O	GI	134	137	9	
605	I1 (positive sequence) (I1 =)	MV													O/O	GI				
606	I2 (negative sequence) (I2 =)	MV													O/O	GI				
831	3Io (zero sequence) (3Io =)	MV													O/O	GI				
621	Va (Va =)	MV													O/O	GI	134	137	9	
622	Vb (Vb =)	MV													O/O	GI	134	137	9	

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
623	Vc (Vc =)	MV													O/O	GI	134	137	9	
624	Va-b (Va-b=)	MV													O/O	GI	160 134	145 137	3 9	
625	Vb-c (Vb-c=)	MV													O/O	GI	134	137	9	
626	Vc-a (Vc-a=)	MV													O/O	GI	134	137	9	
627	VN (VN =)	MV													O/O	GI				
629	V1 (positive sequence) (V1 =)	MV													O/O	GI				
630	V2 (negative sequence) (V2 =)	MV													O/O	GI				
641	P (active power) (P =)	MV													O/O	GI	134	137	9	
642	Q (reactive power) (Q =)	MV													O/O	GI	134	137	9	
645	S (apparent power) (S =)	MV													O/O	GI				
644	Frequency (Freq=)	MV													O/O	GI	134	137	9	
832	3Vo (zero sequence) (3Vo =)	MV													O/O	GI				
901	Power Factor (PF =)	MV													O/O	GI	134	137	9	
996	Tranducer 1 (Td1=)	MV													O/O	GI				
997	Tranducer 2 (Td2=)	MV													O/O	GI				
991	Pressure (Press =)	MVU													O/O	GI				
992	Temperature (Temp =)	MVU													O/O	GI				
268	Supervision Pressure (Superv.Pressure)	OUT	O/O				LED			REL	OM				O/O	GI				

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
269	Supervision Temperature	OUT	O/O				LED			REL	OM				O/O	GI				
830	INs Senstive Ground Fault Current (INs =)	MV													O/O	GI				
701	Resistive ground current in isol systems (INs Real)	MV													O/O	GI	134	137		
702	Reactive ground current in isol systems (INs Reac)	MV													O/O	GI	134	137		
806	Temperature of Stator (Θ Stator)	MV													O/O	GI				
805	Temperature of Rotor (Θ Rotor)	MV													O/O	GI				
963	I A demand (Ia dmd=)	MV													O/O	GI				
964	I B demand (Ib dmd=)	MV													O/O	GI				
965	I C demand (Ic dmd=)	MV													O/O	GI				
833	I1 (positive sequence) Demand (I1 dmd=)	MV													O/O	GI				
834	Active Power Demand (P dmd =)	MV													O/O	GI				
835	Reactive Power Demand (Q dmd =)	MV													O/O	GI				
836	Apparent Power Demand (S dmd =)	MV													O/O	GI				
	Reset Minimum and Maximum counter (ResMinMax)	IntSP_Ev	O												O/O	GI				
395	>I MIN/MAX Buffer Reset (>I MinMax Reset)	SP	O					BI		REL					O/O	GI				

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
396	>I1 MIN/MAX Buffer Reset (>I1 MiMaReset)	SP	O					BI		REL					O/O	GI				
403	>Idmd MIN/MAX Buffer Reset (>Idmd MiMaReset)	SP	O					BI		REL					O/O	GI				
851	Ia Min (Ia Min=)	MVT													O/O	GI				
852	Ia Max (Ia Max=)	MVT													O/O	GI				
853	Ib Min (Ib Min=)	MVT													O/O	GI				
854	Ib Max (Ib Max=)	MVT													O/O	GI				
855	Ic Min (Ic Min=)	MVT													O/O	GI				
856	Ic Max (Ic Max=)	MVT													O/O	GI				
857	I1 (positive sequence) Minimum (I1 Min=)	MVT													O/O	GI				
858	I1 (positive sequence) Maximum (I1 Max=)	MVT													O/O	GI				
837	I A Demand Minimum (IAdmdMin)	MVT													O/O	GI				
838	I A Demand Maximum (IAdmdMax)	MVT													O/O	GI				
839	I B Demand Minimum (IBdmdMin)	MVT													O/O	GI				
840	I B Demand Maximum (IBdmdMax)	MVT													O/O	GI				
841	I C Demand Minimum (ICdmdMin)	MVT													O/O	GI				
842	I C Demand Maximum (ICdmdMax)	MVT													O/O	GI				

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
843	I1 (positive sequence) Demand Minimum (I1dmdMin)	MVT													O/O	GI				
844	I1 (positive sequence) Demand Maximum (I1dmdMax)	MVT													O/O	GI				
397	>V MIN/MAX Buffer Reset (>V MiMaReset)	SP	O					BI		REL					O/O	GI				
398	>Vphph MIN/MAX Buffer Reset (>VphphMiMaRes)	SP	O					BI		REL					O/O	GI				
399	>V1 MIN/MAX Buffer Reset (>V1 MiMa Reset)	SP	O					BI		REL					O/O	GI				
400	>P MIN/MAX Buffer Reset (>P MiMa Reset)	SP	O					BI		REL					O/O	GI				
401	>S MIN/MAX Buffer Reset (>S MiMa Reset)	SP	O					BI		REL					O/O	GI				
402	>Q MIN/MAX Buffer Reset (>Q MiMa Reset)	SP	O					BI		REL					O/O	GI				
404	>Pdmd MIN/MAX Buffer Reset (>Pdmd MiMaReset)	SP	O					BI		REL					O/O	GI				
405	>Qdmd MIN/MAX Buffer Reset (>Qdmd MiMaReset)	SP	O					BI		REL					O/O	GI				
406	>Sdmd MIN/MAX Buffer Reset (>Sdmd MiMaReset)	SP	O					BI		REL					O/O	GI				

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															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
407	>Frq. MIN/MAX Buffer Reset (>Frq MiMa Reset)	SP	O					BI		REL					O/O	GI				
408	>Power Factor MIN/MAX Buffer Reset (>PF MiMaReset)	SP	O					BI		REL					O/O	GI				
859	Va-n Min (Va-nMin=)	MVT													O/O	GI				
860	Va-n Max (Va-nMax=)	MVT													O/O	GI				
861	Vb-n Min (Vb-nMin=)	MVT													O/O	GI				
862	Vb-n Max (Vb-nMax=)	MVT													O/O	GI				
863	Vc-n Min (Vc-nMin=)	MVT													O/O	GI				
864	Vc-n Max (Vc-nMax=)	MVT													O/O	GI				
865	Va-b Min (Va-bMin=)	MVT													O/O	GI				
867	Va-b Max (Va-bMax=)	MVT													O/O	GI				
868	Vb-c Min (Vb-cMin=)	MVT													O/O	GI				
869	Vb-c Max (Vb-cMax=)	MVT													O/O	GI				
870	Vc-a Min (Vc-aMin=)	MVT													O/O	GI				
871	Vc-a Max (Vc-aMax=)	MVT													O/O	GI				
872	V neutral Min (Vn Min =)	MVT													O/O	GI				
873	V neutral Max (Vn Max =)	MVT													O/O	GI				
874	V1 (positive sequence) Voltage Mini-mum (V1 Min =)	MVT													O/O	GI				

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
875	V1 (positive sequence) Voltage Maxi-mum (V1 Max =)	MVT													O/O	GI				
876	Active Power Minimum (Pmin=)	MVT													O/O	GI				
877	Active Power Maximum (Pmax=)	MVT													O/O	GI				
878	Reactive Power Minimum (Qmin=)	MVT													O/O	GI				
879	Reactive Power Maximum (Qmax=)	MVT													O/O	GI				
880	Apparent Power Minimum (Smin=)	MVT													O/O	GI				
881	Apparent Power Maximum (Smax=)	MVT													O/O	GI				
882	Frequency Minimum (fmin=)	MVT													O/O	GI				
883	Frequency Maximum (fmax=)	MVT													O/O	GI				
885	Power Factor Minimum (PF Min=)	MVT													O/O	GI				
884	Power Factor Maximum (PF Max=)	MVT													O/O	GI				
845	Active Power Demand Minimum (PdMin=)	MVT													O/O	GI				
846	Active Power Demand Maximum (PdMax=)	MVT													O/O	GI				
847	Reactive Power Minimum (QdMin=)	MVT													O/O	GI				
848	Reactive Power Maximum (QdMax=)	MVT													O/O	GI				
849	Apparent Power Minimum (SdMin=)	MVT													O/O	GI				
850	Apparent Power Maximum (SdMax=)	MVT													O/O	GI				

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			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
	I A dmd> (I Admd>)	LV													O/O					
	I B dmd> (I Bdmd>)	LV													O/O					
	I C dmd> (I Cdmd>)	LV													O/O					
	I1dmd> (I1dmd>)	LV													O/O					
273	Set Point Phase A dmd> (SP. I A dmd>)	OUT	O/O				LED			REL	OM				O/O	GI	135	230	1	GI
274	Set Point Phase B dmd> (SP. I B dmd>)	OUT	O/O				LED			REL	OM				O/O	GI	135	234	1	GI
275	Set Point Phase C dmd> (SP. I C dmd>)	OUT	O/O				LED			REL	OM				O/O	GI	135	235	1	GI
276	Set Point positive sequence I1dmd> (SP. I1dmd>)	OUT	O/O				LED			REL	OM				O/O	GI	135	236	1	GI
	|Pdmd|> (|Pdmd|>)	LV													O/O					
	|Qdmd|> (|Qdmd|>)	LV													O/O					
	|Sdmd|> (|Sdmd|>)	LV													O/O					
277	Set Point |Pdmd|> (SP. |Pdmd|>)	OUT	O/O				LED			REL	OM				O/O	GI	135	237	1	GI
278	Set Point |Qdmd|> (SP. |Qdmd|>)	OUT	O/O				LED			REL	OM				O/O	GI	135	238	1	GI
279	Set Point |Sdmd|> (SP. |Sdmd|>)	OUT	O/O				LED			REL	OM				O/O	GI	135	239	1	GI
	Pressure< (Press<)	LVU													O/O					
	Temp> (Temp>)	LVU													O/O					
270	Set Point Pressure< (SP. Pressure<)	OUT	O/O				LED			REL	OM				O/O	GI				
271	Set Point Temp> (SP. Temp>)	OUT	O/O				LED			REL	OM				O/O	GI				

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F#	Description	Type of Informa-tion	Log-Buffers				Configurable in Matrix								SCADA Interface					
															General		IEC 60870-5-103			
			Event Log	Trip Log	Sens. E Log	Marked in Oscill. Record	LED	Binary Input	Function Key	Binary Output	Event Log	Trip Log	Sens. E Log	Chatter Blocking	Status ON / OFF	General Interrogation	Type	Information-No.	Data Unit (ASDU)	General Interrogation
284	Set Point 37-1 Undercurrent alarm (SP. 37-1 alarm)	OUT	O/O				LED			REL	OM				O/O	GI	135	244	1	GI
	37-1 under current (37-1)	LV													O/O					
	|Power Factor|< (|PF|<)	LV													O/O					
285	Set Point 55 Power factor alarm (SP. PF(55)alarm)	OUT	O/O				LED			REL	OM				O/O	GI	135	245	1	GI
	Reset meter (Meter res)	IntSP_Ev	O					BI							O/O	GI				
1020	Counter of operating hours (Op.Hours=)	OUT													O/O	GI				
409	>BLOCK Op Counter (>BLOCK Op Count)	SP	O/O				LED	BI		REL	OM				O/O	GI				
1021	Accumulation of interrupted current Ph A (Σ Ia =)	OUT													O/O	GI				
1022	Accumulation of interrupted current Ph B (Σ Ib =)	OUT													O/O	GI				
1023	Accumulation of interrupted current Ph C (Σ Ic =)	OUT													O/O	GI				
	Operating hours greater than (OpHour>)	LV													O/O	GI				
272	Set Point Operating Hours (SP. Op Hours>)	OUT	O/O				LED			REL	OM				O/O	GI	135	229	1	GI

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