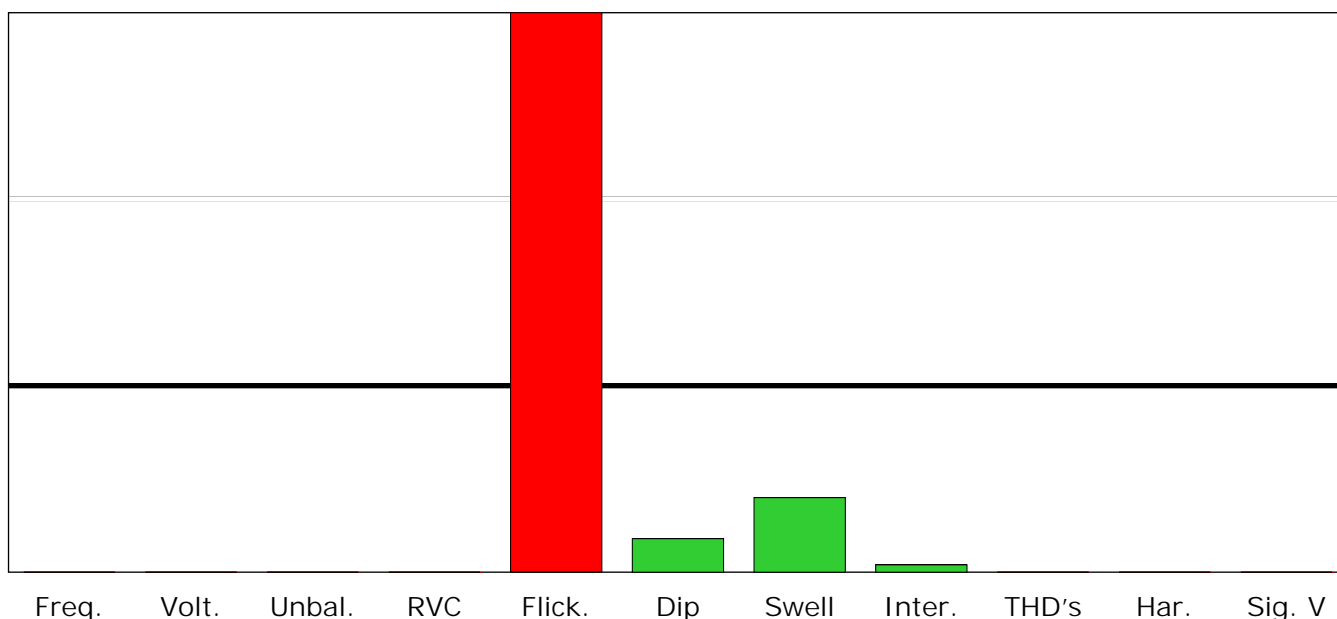


Power Quality Report - EN 50160

Report	Measuring point
Report number: 26/2014	Device type: MV-LOG - Class A
Start date: 24.06.2014	Serial No.: MC016783
End date: 28.06.2014	Location:
Compliance: Failed	Description:
Status: Not complete	System: Low voltage
Monitoring time: 16:30:00	Connection: Phase to neutral
Evaluation: All deviations	Voltage: 230 V
Flicker calculation: 230V lamp	Frequency: 50 Hz

Parameter	Comp.	L1 (System)	L2	L3	Multi Phase
Frequency Variations 1	OK	100,00 %	-	-	
Frequency Variations 2	OK	100,00 %	-	-	
Voltage Variations 1	OK	100,00 %	100,00 %	100,00 %	
Voltage Variations 2	OK	100,00 %	100,00 %	100,00 %	
Voltage Unbalances	OK	100,00 %	-	-	
Rapid voltage changes	OK	0	0	0	0
Flickers Pst	-	90,48 %	90,48 %	90,48 %	
Flickers Plt	Failed	42,86 %	42,86 %	42,86 %	
Voltage Dips	OK	0 / 7	0 / 9	0 / 7	0 / 9
Voltage Swells	OK	1 / 20	1 / 20	1 / 20	1 / 20
Short Interruptions	OK	0 / 4	0 / 4	0 / 4	0 / 4
Long Interruptions	OK	0 / 0	0 / 0	0 / 0	0 / 0
THD's	OK	100,00 %	100,00 %	100,00 %	
Harmonics	OK	100,00 %	100,00 %	100,00 %	
Signaling voltage	OK	100,00 %	100,00 %	100,00 %	



1. Frequency Variations

Frequency Variations 1	Value	Remark	
Deviation limit	±1%		
Quality required	99,5 % / Week		
Measurements	System		
Compliance	OK		
Quality	100,00 %		
Minimum average value	With in limit		
Maximum average value	With in limit		

Frequency Variations 2	Value	Remark	
Deviation limit	+4%/-6%		
Quality required	100 % / Week		
Measurements	System		
Compliance	OK		
Quality	100,00 %		
Minimum average value	With in limit		
Maximum average value	With in limit		

2. Voltage Variations

Voltage Variations 1	Value	Remark		
Deviation limit	±10%			
Quality required	95 % / Week			
Measurements	L1	L2	L3	
Compliance	OK	OK	OK	
Quality	100,00 %	100,00 %	100,00 %	
Minimum average value	With in limit	With in limit	With in limit	
Maximum average value	With in limit	With in limit	With in limit	

Voltage Variations 2	Value	Remark		
Deviation limit	+10%/-15%			
Quality required	100 % / Week			
Measurements	L1	L2	L3	
Compliance	OK	OK	OK	
Quality	100,00 %	100,00 %	100,00 %	
Minimum average value	With in limit	With in limit	With in limit	
Maximum average value	With in limit	With in limit	With in limit	

3. Voltage Unbalances

Voltage Unbalances	Value	Remark	
Deviation limit	2%		
Quality required	95 % / Week		
Measurements	System		
Compliance	OK		
Quality	100,00 %		
Maximum average value	With in limit		

4. Rapid voltage changes

Rapid voltage changes	Value	Remark		
Event limit	±5%			
Allowed events	20 / Week			
Measurements	L1	L2	L3	Multi Phase
Compliance	-	-	-	OK
Events	0	0	0	0
Max. negative deviation	With in limit	With in limit	With in limit	With in limit
Max. positive deviation	With in limit	With in limit	With in limit	With in limit
Maximum duration	-	-	-	-

5. Flickers

Flickers Pst	Value	Remark		
Deviation limit	1			
Quality required	Info only			
Measurements	L1	L2	L3	
Compliance	-	-	-	
Quality	90,48 %	90,48 %	90,48 %	
Maximum average value	145,62	-	-	

Flickers Plt	Value	Remark		
Deviation limit	1			
Quality required	95 % / Week			
Measurements	L1	L2	L3	
Compliance	Failed	Failed	Failed	
Quality	42,86 %	42,86 %	42,86 %	
Maximum average value	39,34	-	-	

6. Voltage Dips

Voltage Dips	Value	Remark		
Event limit	90%			
Allowed events	50 / Year			
Measurements	L1	L2	L3	Multi Phase
Compliance	-	-	-	OK
Events	0 / 7	0 / 9	0 / 7	0 / 9
Minimum value	With in limit	With in limit	With in limit	With in limit
Maximum duration	-	-	-	-

Multi Phase events (week)	10-200ms	>500ms	>500ms	>1s	5-60s	Other
80 < Un < 90 %	0	0	0	0	0	0
70 < Un < 80 %	0	0	0	0	0	0
40 < Un < 70 %	0	0	0	0	0	0
5 < Un < 40 %	0	0	0	0	0	0
Un < 5 %	0	0	0	0	0	0

7. Voltage Swells

Voltage Swells	Value	Remark		
Event limit	110%			
Allowed events	50 / Year			
Measurements	L1	L2	L3	Multi Phase
Compliance	-	-	-	OK
Events	1 / 20	1 / 20	1 / 20	1 / 20
Maximum value	295,07 V	-	-	-
Maximum duration	00:00:00,110	-	-	-

Multi Phase events (week)	10-500ms	>500ms	5-60s	Other
110 < Un < 120 %	0	0	0	0
Un > 120 %	0	0	0	0

8. Interruptions

Short Interruptions	Value	Remark		
Event limit	5%, <180s			
Allowed events	100 / Year			
Measurements	L1	L2	L3	Multi Phase
Compliance	-	-	-	OK
Events	0 / 4	0 / 4	0 / 4	0 / 4
Minimum value	With in limit	With in limit	With in limit	With in limit
Maximum duration	-	-	-	-

Long Interruptions	Value	Remark		
Event limit	5%, >180s			
Allowed events	10 / Year			
Measurements	L1	L2	L3	Multi Phase
Compliance	-	-	-	OK
Events	0 / 0	0 / 0	0 / 0	0 / 0
Minimum value	With in limit	With in limit	With in limit	With in limit
Maximum duration	-	-	-	-

9. Signaling voltage

Signaling voltage	Value	Remark	
Deviation limit	10%		
Quality required	99 % / Day		
Measurements	L1	L2	L3
Compliance	OK	OK	OK
Quality	100,00 %	100,00 %	100,00 %
Maximum average value	With in limit	With in limit	With in limit

10. THD's

THD's	Value	Remark	
Deviation limit	8%		
Quality required	95 % / Week		
Measurements	L1	L2	L3
Compliance	OK	OK	OK
Quality	100,00 %	100,00 %	100,00 %
Maximum average value	With in limit	With in limit	With in limit

11. Harmonics

Harmonics	Value	Remark	
Deviation limit	0,5% ... 6%		
Quality required	95 % / Week		
Measurements	L1	L2	L3
Compliance	OK	OK	OK
Quality	100,00 %	100,00 %	100,00 %
Maximum average value	With in limit	With in limit	With in limit

Harmonic	Limit	Time out of limit		
		L1	L2	L3
Harmonic 2	8,0 %	0,00 %	0,00 %	0,00 %
Harmonic 3	5,0 %	0,00 %	0,00 %	0,00 %
Harmonic 4	1,0 %	0,00 %	0,00 %	0,00 %
Harmonic 5	6,0 %	0,00 %	0,00 %	0,00 %
Harmonic 6	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 7	5,0 %	0,00 %	0,00 %	0,00 %
Harmonic 8	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 9	1,5 %	0,00 %	0,00 %	0,00 %
Harmonic 10	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 11	3,5 %	0,00 %	0,00 %	0,00 %
Harmonic 12	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 13	3,0 %	0,00 %	0,00 %	0,00 %
Harmonic 14	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 15	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 16	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 17	2,0 %	0,00 %	0,00 %	0,00 %
Harmonic 18	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 19	1,5 %	0,00 %	0,00 %	0,00 %
Harmonic 20	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 21	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 22	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 23	1,5 %	0,00 %	0,00 %	0,00 %
Harmonic 24	0,5 %	0,00 %	0,00 %	0,00 %
Harmonic 25	1,5 %	0,00 %	0,00 %	0,00 %