

Model Implementation Conformance Statement  
for the IEC 61850 interface in AQ-F215

6.02.2014, v1.0.3

UCA International Users Group  
Testing Sub Committee

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# 1. Introduction

This model implementation conformance statement is applicable for Arcteq AQ-F215, with firmware v1.0.3:

This MICS document specifies the modelling extensions compared to IEC 61850 edition 1. For the exact details on the standardized model please compare the ICD substation configuration file: "Aqx2xx.CID", version 1.0.

Clause 2 contains the list of implemented logical nodes.  
Clause 3 describes the new and extended logical nodes.

## 2. Logical Nodes List

The following table contains the list of logical nodes implemented in the device:

<b>L: System Logical Nodes</b>
LPHD (Physical device information)
LLN0 (Logical node zero)
<b>P: Logical Nodes for protection functions</b>
PDIF (Differential)
PDOP (Directional overpower)
PDUP (Directional underpower)
PHAR (Harmonic restraint)
PMRI (Motor restart inhibition)
PMSS (Motor starting time supervision)
PTOC (Time overcurrent)
PTOF (Overfrequency)
PTOV (Overvoltage)
PTTR (Thermal overload)
PTUC (Undercurrent)
PTUF (Underfrequency)
PTUV (Undervoltage)
<b>R: Logical nodes for protection related functions</b>
RBRF (Breaker failure)
RREC (Autoreclosing)
<b>G: Logical Nodes for generic references</b>
GGIO (Generic process I/O)
<b>M: Logical Nodes for metering and measurement</b>
MMTR (Metering)
MMXU (Measurement)
<b>C: Logical Nodes for control</b>
CILO (Interlocking)

**CSWI** (Switch controller)

### 3. Logical Node Extensions

The following table use

- M : Data is mandatory in the IEC-61850-7-4.
- O: Data is optional in the IEC-61850-7-4 and is used in the device.
- E: Data is an extension to the IEC-61850-7-4.

#### 3.1. Extended Logical Nodes

The following logical nodes have been extended with extra data. All extra data has been highlighted in the tables and marked as “E” (Extended), these data contains the “dataNs” attribute.

##### 3.1.1 GGIO Generic process I/O

GGIO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
GGIO		Generic process I/O		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	Status-only
Beh	INS	Behaviour	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Alm	SPS	General single alarm	O	
Ind	SPS	General indication (binary input)	O	
Active	SPS	Active	E	
ArcT	SPS	ArcT	E	
FinalTrip	SPS	FinalTrip	E	

HighOC	SPS	HighOC	E	
Inh	SPS	Inhibit	E	
LoadNormal	SPS	LoadNormal	E	
LoadNotSymm	SPS	LoadNotSymm	E	
Lok	SPS	Locked	E	
LO	SPS	Lockout	E	
Overload	SPS	Overload	E	
RecIT	SPS	RecIT	E	
ReqOn	SPS	ReqOn	E	
Running	SPS	Running	E	
SeqFin	SPS	SeqFin	E	
Shot	SPS	Shot	E	
Stalled	SPS	Stalled	E	
Started	SPS	Started	E	
Stopped	SPS	Stopped	E	
Str	SPS	Str	E	
Tr	SPS	Trip	E	
Zn	SPS	Zone	E	
<b>Controls</b>				
SPCSO	SPC	Single point controllable status output	O	
In	SPC	Input	E	
Sw	SPC	Switch	E	
<b>Measured values</b>				
Flt	MV	Flt	E	

### 3.1.2 Switch Controller

<b>CSWI class</b>				
<b>Attribute Name</b>	<b>Attribute Type</b>	<b>Explanation</b>	<b>M/O/E</b>	<b>Remarks</b>
CSWI		Switch Controller		
<b>Data</b>				
<b>Common Logical Node Information</b>				
Mod	INC	Mode	M	Enum is used instead of INTEGER
Beh	INS	Behaviour	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
<b>Controls</b>				
Pos	DPC	Switch, general	M	