

Documento de Interoperabilidade do Protocolo IEC/60870-5-103 no SAGE

AGOSTO 2016

4.2 Common address of ASDU

One COMMON ADDRESS OF ASDU (identical with station address)

More than one COMMON ADDRESS OF ASDU

4.3 Selection of standard information numbers in monitor direction

4.3.1 System functions in monitor direction (TI-05, 06 e 08)

INF Semantics

<0> End of general interrogation

<0> Time synchronization

<2> Reset FCB

<3> Reset CU

<4> Start/restart

<5> Power on

4.3.2 Status indications in monitor direction (TI-01)

INF Semantics

<16> Auto-recloser active

<17> Teleprotection active

<18> Protection active

<19> LED reset

<20> Monitor direction blocked

<21> Test mode

<22> Local parameter setting

<23> Characteristic 1

<24> Characteristic 2

<25> Characteristic 3

<26> Characteristic 4

<27> Auxiliary input 1

<28> Auxiliary input 2

<29> Auxiliary input 3

<30> Auxiliary input 4

4.3.3 Supervision indications in monitor direction (TI-01)

INF Semantics

<32> Measurand supervision I

<33> Measurand supervision V

<35> Phase sequence supervision

<36> Trip circuit supervision

<37> I>> back-up operation

<38> VT fuse failure

<39> Teleprotection disturbed

<46> Group warning

<47> Group alarm

4.3.4 Earth fault indications in monitor direction (TI-01)

INF Semantics

<48> Earth fault L1

<49> Earth fault L2

<50> Earth fault L3

<51> Earth fault forward, i.e. line

[x] <52> Earth fault reverse, i.e. busbar

4.3.5 Fault indications in monitor direction (TI-02)

INF Semantics

[x] <64> Start /pick-up L1
[x] <65> Start /pick-up L2
[x] <66> Start /pick-up L3
[x] <67> Start /pick-up N
[x] <68> General trip
[x] <69> Trip L1
[x] <70> Trip L2
[x] <71> Trip L3
[x] <72> Trip I>> (back-up operation)
[x] <73> Fault location X in ohms
[x] <74> Fault forward/line
[x] <75> Fault reverse/busbar
[x] <76> Teleprotection signal transmitted
[x] <77> Teleprotection signal received
[x] <78> Zone 1
[x] <79> Zone 2
[x] <80> Zone 3
[x] <81> Zone 4
[x] <82> Zone 5
[x] <83> Zone 6
[x] <84> General start/pick-up
[x] <85> Breaker failure
[x] <86> Trip measuring system L1
[x] <87> Trip measuring system L2
[x] <88> Trip measuring system L3
[x] <89> Trip measuring system E
[x] <90> Trip I>
[x] <91> Trip I>>
[x] <92> Trip IN>
[x] <93> Trip IN>>

4.3.6 Auto-reclosure indications in monitor direction (TI-01)

INF Semantics

[x] <128> CB 'on' by AR
[x] <129> CB 'on' by long-time AR
[x] <130> AR blocked

4.3.7 Measurands in monitor direction (TI-03 e 09)

INF Semantics

[x] <144> Measurand I
[x] <145> Measurands I, V
[x] <146> Measurands I, V, P, Q
[x] <147> Measurands IN, VEN
[x] <148> Measurands IL1,2,3, VL1,2,3, P, Q, f

4.3.8 Generic functions in monitor direction (TI-10 e 11)

INF Semantics

[] <240> Read headings of all defined groups
[] <241> Read values or attributes of all entries of one group

- <243> Read directory of a single entry
- <244> Read value or attribute of a single entry
- <245> End of general interrogation of generic data
- <249> Write entry with confirmation
- <250> Write entry with execution
- <251> Write entry aborted

4.4 Selection of standard information numbers in control direction

4.4.1 System functions in control direction (TI-06 e 07)

INF Semantics

- <0> Initiation of general interrogation
- <0> Time synchronization

4.4.2 General commands in control direction (TI-20)

INF Semantics

- <16> Auto-recloser on/off
- <17> Teleprotection on/off
- <18> Protection on/off
- <19> LED reset
- <23> Activate characteristic 1
- <24> Activate characteristic 2
- <25> Activate characteristic 3
- <26> Activate characteristic 4

4.4.3 Generic functions in control direction (TI-10 e 21)

INF Semantics

- <240> Read headings of all defined groups
- <241> Read values or attributes of all entries of one group
- <243> Read directory of a single entry
- <244> Read value or attribute of a single entry
- <245> General interrogation of generic data
- <248> Write entry
- <249> Write entry with confirmation
- <250> Write entry with execution
- <251> Write entry abort

4.5 Basic application functions

- Test mode
- Blocking of monitor direction
- Disturbance data
- Generic services
- Private data

4.6 Selection of standard ASDUs

Information in monitor direction

- <1> := Time-tagged message
- <2> := Time-tagged message with relative time
- <3> := Measurands I
- <4> := Time-tagged measurands with relative time
- <5> := Identification

- [x] <6> := Time synchronization
- [x] <8> := General interrogation termination
- [x] <9> := Measurands II
- [] <10> := Generic data
- [] <11> := Generic identification
- [] <23> := List of recorded disturbances
- [] <26> := Ready for transmission of disturbance data
- [] <27> := Ready for transmission of a channel
- [] <28> := Ready for transmission of tags
- [] <29> := Transmission of tags
- [] <30> := Transmission of disturbance values
- [] <31> := End of transmission

Information in control direction

- [x] <6> := Time synchronization
- [x] <7> := General interrogation
- [] <10> := Generic data
- [x] <20> := General command
- [] <21> := Generic command
- [] <24> := Order for disturbance data transmission
- [] <25> := Acknowledgement for disturbance data transmission

4.7 Miscellaneous

Measurands are transmitted with ASDU 3 as well as with ASDU 9. As defined in 7.2.6.8, the maximum MVAL can either be 1,2 or 2,4 times the rated value. No different rating shall be used in ASDU 3 and ASDU 9, i.e. for each measurand there is only one choice.

Measurand	Max. MVAL = rated value times	
	1,2	or 2,4
Current L1	[]	[]
Current L2	[]	[]
Current L3	[]	[]
Voltage L1-E	[]	[]
Voltage L2-E	[]	[]
Voltage L3-E	[]	[]
Active power P	[]	[]
Reactive power Q	[]	[]
Frequency f	[]	[]
Voltage L1 - L2	[]	[]