

## Telegram description

### Telegram 1 : Default telegram

| Description  | Unit            | Value if not available |
|--|-----------------|------------------------|
| Total Positive Active Energy (no resetable) : Ea+    | kWh             | 0x7FFFFFFF             |
| Total Positive Reactive Energy (no resetable) : Er + | kvarh           | 0x7FFFFFFF             |
| Total Negative Active Energy (no resetable) : Ea-    | kWh             | 0x7FFFFFFF             |
| Total Negative Reactive Energy (no resetable) : Er - | kvarh           | 0x7FFFFFFF             |
| Tariff number in progress ( 1 to 4 )                 |                 | 0                      |
| 4 * Positive Active Energies                         | kWh             | 0x7FFFFFFF             |
| 4 * Positive Reactive Energies                       | kvarh           | 0x7FFFFFFF             |
| $\Sigma$ Active Power +/- : P                        | kW/100 (Signed) | 0x7FFFFFFF             |
| Active Power phase 1 +/- : P1                        | kW/100 (Signed) | 0x7FFFFFFF             |
| Active Power phase 2 +/- : P2                        | kW/100 (Signed) | 0x7FFFFFFF             |
| Active Power phase 3 +/- : P3                        | kW/100 (Signed) | 0x7FFFFFFF             |
| Current Transformer primary                          | A               | 0x7FFF                 |
| Phase to Phase Voltage: U12                          | V/100           | 0x7FFFFFFF             |
| Phase to Phase Voltage: U23                          | V/100           | 0x7FFFFFFF             |
| Phase to Phase Voltage: U31                          | V/100           | 0x7FFFFFFF             |
| Simple voltage : V1                                  | V/100           | 0x7FFFFFFF             |
| Simple voltage : V2                                  | V/100           | 0x7FFFFFFF             |
| Simple voltage : V3                                  | V/100           | 0x7FFFFFFF             |
| Current : I1   | mA              | 0x7FFFFFFF             |
| Current : I2   | mA              | 0x7FFFFFFF             |
| Current : I3   | mA              | 0x7FFFFFFF             |
| Neutral Current : In                                 | mA              | 0x7FFFFFFF             |

### Telegram 2 : Energies

| Description  | Unit  | Value if not available |
|--|-------|------------------------|
| Total Positive Active Energy (no resetable) : Ea+    | kWh   | 0x7FFFFFFF             |
| Total Positive Reactive Energy (no resetable) : Er + | kvarh | 0x7FFFFFFF             |
| Total Negative Active Energy (no resetable) : Ea-    | kWh   | 0x7FFFFFFF             |
| Total Negative Reactive Energy (no resetable) : Er - | kvarh | 0x7FFFFFFF             |
| Partial Positive Active Energy: Ea+                  | kWh   | 0x7FFFFFFF             |
| Partial Positive Reactive Energy: Er +               | kvarh | 0x7FFFFFFF             |
| Partial Negative Active Energy : Ea-                 | kWh   | 0x7FFFFFFF             |
| Partial Negative Reactive Energy: Er -               | kvarh | 0x7FFFFFFF             |
| Tariff number in progress ( 1 to 4 )                 |       | 0                      |
| 4 * Positive Active Energies                         | kWh   | 0x7FFFFFFF             |
| 4 * Positive Reactive Energies                       | kvarh | 0x7FFFFFFF             |

### Telegram 3 : Metrology

| Description                 | Unit  | Value if not available |
|-----------------------------|-------|------------------------|
| Phase to Phase Voltage: U12 | V/100 | 0x7FFFFFFF             |
| Phase to Phase Voltage: U23 | V/100 | 0x7FFFFFFF             |

|                             |       |            |
|-----------------------------|-------|------------|
| Phase to Phase Voltage: U31 | V/100 | 0x7FFFFFFF |
| Simple voltage : V1         | V/100 | 0x7FFFFFFF |
| Simple voltage : V2         | V/100 | 0x7FFFFFFF |
| Simple voltage : V3         | V/100 | 0x7FFFFFFF |
| Current : I1                | mA    | 0x7FFFFFFF |
| Current : I2                | mA    | 0x7FFFFFFF |
| Current : I3                | mA    | 0x7FFFFFFF |
| Neutral Current : In        | mA    | 0x7FFFFFFF |

#### Telegram 4 : Powers

| Description  | Unit              | Value if not available |
|--|-------------------|------------------------|
| $\Sigma$ Active Power +/- : P                          | kW/100 (Signed)   | 0x7FFFFFFF             |
| $\Sigma$ Reactive Power +/- : Q                        | kvar/100 (Signed) | 0x7FFFFFFF             |
| $\Sigma$ Apparent Power : S                            | kVA/100           | 0x7FFFFFFF             |
| $\Sigma$ Power Factor : -: leading et + : lagging : PF | 0,001 (Signed)    | 0x7FFFFFFF             |
| Active Power phase 1 +/- : P1                          | kW/100 (Signed)   | 0x7FFFFFFF             |
| Active Power phase 2 +/- : P2                          | kW/100 (Signed)   | 0x7FFFFFFF             |
| Active Power phase 3 +/- : P3                          | kW/100 (Signed)   | 0x7FFFFFFF             |
| Reactive Power phase 1 +/- : Q1                        | kvar/100 (Signed) | 0x7FFFFFFF             |
| Reactive Power phase 2 +/- : Q2                        | kvar/100 (Signed) | 0x7FFFFFFF             |
| Reactive Power phase 3 +/- : Q3                        | kvar/100 (Signed) | 0x7FFFFFFF             |
| Apparent Power phase 1 : S1                            | kVA/100           | 0x7FFFFFFF             |
| Apparent Power phase 2 : S2                            | kVA/100           | 0x7FFFFFFF             |
| Apparent Power phase 3 : S3                            | kVA/100           | 0x7FFFFFFF             |
| Power Factor phase 1 -: leading and + : lagging : PF1  | 0,001 (Signed)    | 0x7FFFFFFF             |
| Power Factor phase 2 -: leading and + : lagging : PF2  | 0,001 (Signed)    | 0x7FFFFFFF             |
| Power Factor phase 3 -: leading and + : lagging : PF3  | 0,001 (Signed)    | 0x7FFFFFFF             |

#### Telegram 6 : Advanced information

| Description  | Unit                              | Value if not available |
|--|-----------------------------------|------------------------|
| Product order ID (Countis:100, Protection:200, Atys:300, Diris:400)                                |                                   | 0x7FFF                 |
| Product ID (EX: 1000 AT3)  |                                   | 0x7FFF                 |
| Product software version (EX: 100 Version 1.00)  |                                   | 0x7FFF                 |
| Serial_AA_SS   | Poids fort : AA poids faible : SS | 0x7FFF                 |
| Serial_SST_L   | Poids fort : SST poids faible : L | 0x7FFF                 |
| Serial_order   |                                   | 0x7FFF                 |
| Serial_Reserve   |                                   | 0x7FFFFFFF             |
| Network Type :<br>2 : 3BL (332), 3 : 3NBL (333), 5 : 4NBL (343)                                    | -                                 | 0x7FFF                 |
| Current Transformer secondary : 1: 1 A 5: 5 A  | A                                 | 0x7FFF                 |
| Current Transformer primary  | A                                 | 0x7FFF                 |
| Synchronisation Top for P+/- Q+/- : time in seconds ( 1mn, 5mn, 8mn, 10mn, 15mn, 20mn, 30mn, 60mn) | secondes                          | 0x7FFF                 |
| Day  |                                   | 0x7FFF                 |
| Month  |                                   | 0x7FFF                 |
| Year   |                                   | 0x7FFF                 |
| Hour   |                                   | 0x7FFF                 |
| Minute   |                                   | 0x7FFF                 |
| Second   |                                   | 0x7FFF                 |
| Tariff number in progress ( 1 to 8 )   |                                   | 0                      |

#### Telegram 9 : Indus Mode

| Description | Unit | Value if not available |
|-------------|------|------------------------|
| Indus Mode  |      | 0x7FFF                 |

## Commands description

### Commands to send from Master to Slave to configure a slave

The commands are sent using SND\_UD

| Command                                 | Description  | CI Field | DIB          | VIB          |                |
|---|--|----------|--------------|--------------|----------------|
| Set Date/Time                           | Set Date and Time of the meter   | 0x51     | 0x06         | 0x6D         | 6 bytes        |
| Select Telegram                         | Set the telegram to send in answer to an REQ_UD2 command. See "Telegram description" to know the content of each telegram. Valid values are 1xh with x=Telegram number (1 to 8)                                    | 0x50     | No DIF       | No VIF       | 1 byte         |
| Com. Board Processor RESET              | Software Reset of the communication board (like power off - power on)  | 0x50     | No DIF       | No VIF       | 1 byte=0x90    |
| Set baud rate to 300bps                 | Change the communication baud rate.<br>A valid message must be sent in the 2 minutes after this command in order to confirm the new baud rate. If the countis is in Auto Baud mode, it will switch in manual mode. | 0xB8     | No DIF       | No VIF       | No Data        |
| Set baud rate to 600bps                 |  | 0xB9     | No DIF       | No VIF       | No Data        |
| Set baud rate to 1200bps                |  | 0xBA     | No DIF       | No VIF       | No Data        |
| Set baud rate to 2400bps                |  | 0xBB     | No DIF       | No VIF       | No Data        |
| Set baud rate to 4800bps                |  | 0xBC     | No DIF       | No VIF       | No Data        |
| Set baud rate to 9600bps                |  | 0xBD     | No DIF       | No VIF       | No Data        |
| Reserved                                | Reserved   | 0xBE     | No DIF       | No VIF       | No Data        |
| Reserved                                | Reserved   | 0xBF     | No DIF       | No VIF       | No Data        |
| Set primary address (0-250)             | Set the primary address of the countis. Valid values are in the range 0-250. Address 0 is reserved for first installation and is the default value after manufacturing.  | 0x51     | 0x01         | 0x7A         | 1 byte         |
| Set secondary address (Manufacturer ID) | Set the Manufacturer Id for secondary addressing of the countis. Valid values are in the range 00000000-99999999. This Id is unique for the manufacturer and should not be changed.                                | 0x51     | 0x0C         | 0x79         | 8 BCD(4 bytes) |
| Set secondary address (Full address)    | Set the Manufacturer Id, Manufacturer code, Generation and Medium codes for secondary addressing of the countis. These codes form a unique address and should not be changed.                                      | 0x51     | 0x07         | 0x79         | 64 bits(2)     |
| Set current tariff (1-4)                | Set the current tariff   | 0x51     | 0x02         | 0x7C 0x03    | 1 Word         |
| Reserved                                | Reserved   | 0x51     | 0x14         | 0xAC 0x07    | No data        |
| Reset Partial energies                  | Reinitialize partial energies  | 0x51     | 0xC4<br>0x01 | 0x86 0x07    | No data        |
| Set Network                             | Set the network configuration  | 0x51     | 0x02         | 0xFD<br>0x67 | 1 Word         |
| Set Secondary CT                        | Set the Secondary curent transformer ratio   | 0x51     | 0x42         | 0xFD<br>0x67 | 1 Word         |
| Set Primary CT                          | Set the Primary curent transformer ratio   | 0x51     | 0x82 0x01    | 0xFD<br>0x67 | 1 Word         |
| Reserved                                | Reserved   | 0x51     | 0xC2<br>0x01 | 0xFD<br>0x67 | 1 Word         |

| (2) Full Address |                   |            |        |  |
|------------------|-------------------|------------|--------|--|
| Manufacturer ID  | Manufacturer Code | Generation | Medium |  |

|  |                  |        |                  |  |
|--|------------------|--------|------------------|--|
|  | (not changeable) |        | (not changeable) |  |
| 8 BCD (4 bytes)  | E3h 4Dh          | 1 byte | 1 byte=03h       |  |
| <p>Data are coded LSB first.<br/> Example:<br/> Man. ID=12345678, Man. Code=4Dh E3h, Generation=4; Medium=3<br/> 78h, 56h, 34h, 12h,E3h, 4Dh,04h,03h</p> |                  |        |                  |  |