OPEN PROTOCOL FOR ELECTRICAL NETWORKS

Energy Management Functions

Brand	Item
Legrand	
BTicino	F80/x, F520, F521, F522, F523, 3522

Document History

Version	Date	Author
1.0.0	15/07/2011	My Open Staff
Updating description: FIRST VERSION		

Index

Sommaire

1 DESCRIPTION

The following document describes the system of supervision (who=18). This system is composed of various devices:

- STOP&GO;
- Centrale Energy Saving, load control, energy counters;
- Actuators Energy saving;

Each of these devices will be identified by a different WHERE.

2 WHERE TABLE

VALUE		DESCRIPTION
1N	N=[1-127]	Stop & Go
5N	N= [1-255]	Energy Management Central Unit, Pulse Counter, Power Meter: Bticino reference: F520, F523, 3522. Legrand reference:03555,03557, 03554
7N#0	N= [1-255]	Energy Management Actuators: Bticino reference: F522, F523 Legrand reference: 03558, 03559

3 WHAT TABLE

VALUE	DESCRIPTION
26	Activation of the automatic reset
27	Deactivation of the automatic reset
57	Start sending daily totalizers on an hourly basis for 16-bit Daily graphics
58	Start sending monthly on an hourly basis for 16-bit graphics average Daily
59	Start sending monthly totalizers current year on a daily basis for 32-bit Monthly graphics
510	Start sending monthly totalizers on a daily basis, last year compared to 32-bit graphics TouchX Previous Year
71	Enable Actuator
73	Forced actuator for X Time

74	End forced Actuator
75	Reset totalizers

4 DIMENSION TABLE

VALUE	DESCRIPTION
113	Active Power
1200	End Automatic Update size
51	Energy/Unit Totalizer
52	Energy/Unit pe month
53	Partial totalizer for current month
54	Partial totalizer for current day
71	Actuators info
72	Totalizers
73	Differential current level
250	Status Stop&Go (Général)
251	Status Stop&Go (open/close)
252	Status Stop&Go (failure/no failure)
253	Status Stop&Go(block/not block)
254	Status Stop&Go(open for CC between the N/not open for CC between the N/)
255	Status Stop&Go(opened ground falt/ not opened ground falt)
256	Status Stop&Go(open for Vmax/Not open for Vmax)
257	Status Stop&Go(Self-test disabled/close)
258	Status Stop&Go(Automatic reset off/close)
259	Status Stop&Go(check off/close)
260	Status Stop&Go(Witing for closing/close)
261	Status Stop&Go(First 24hours of opening/close)
262	Status Stop&Go(Power failure downstream/close)
263	Status Stop&Go(Power failure upstream/close)
511	Daily totalizers on an hourly basis for 16-bit Daily graphics
512	Monthly average on an hourly basis for 16-bit Media Daily graphics
513	Monthly totalizers current year on a daily basis for 32-bit Monthly graphics
514	Monthly totalizers on a daily basislast year compared to 32 bit graphics TouchX Previous Year

5 ACTION CONNECTION

5.1 Command to be sent:

5.1.1 *Activation of the automatic reset*

Action Connection	Open Frame	Note
Client → Server	*18*26*where##	Stop&GO
Client ← Server	*#*1##	

5.1.2 *Deactivation of the automatic reset*

Action Connection	Open Frame	Note
Client → Server	*18*27*where##	Stop&GO
Client ← Server	*#*1##	

5.1.3 *Start sending daily totalizers on an hourly basis for 16-bit for daily graphics*

Action Connection	Open Frame	Note
Client → Server	*18*57#<M>#<D>*where##	<**M**> month <**D**> day
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*511#<M>#<D>*<Tag>*<Val>## *#18*<Where>*511#<M>#<D>*<Tag>*<Val>## …. *#18*<Where>*511#<M>#<D>*<Tag>*<Val>## *#18*<Where>*511#<M>#<D>*25*<TOT>##	<Tag> number of the measure: 1 to 24 <Val> Watt/h <TOT> Daily Total Unit

5.1.4 *Start sending Average monthly on an hourly basis for 16-bit for media daily graphics:*

Action Connection	Open Frame	Note
Client → Server	*18*58#<M>*where##	<**M**> month
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*512#<M>*<Tag>*<Val>## *#18*<Where>*512#<M>*25*<MED>##	<**M**> month <Tag> number of the measure: 1 to 24 <Val> Watt/h average on a month

		<MED> Monthly Average Wh / Unit

5.1.5 *Start sending monthly totalizers current year on a daily basis for 32-bit for monthly graphics:*

Action Connection	Open Frame	Note
Client → Server	*18*59#<M>*where##	<**M**> month
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*513#<M>*<Tag>*<Val>## *#18*<Where>*513#<M>*<Tag>*<Val>## *#18*<Where>*513#<M>*<Tag>*<Val>## …	<**M**> month <Tag> the day from: 1 to 31

5.1.6 *Start sending monthly totalizers on a daily basis, last year compared to 32-bit graphics Previous Year :*

Action Connection	Open Frame	Note
Client → Server	*18*510#<M>*where##	<**M**> month
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*514#<M>*<Tag>*<Val>## *#18*<Where>*514#<M>*<Tag>*<Val>## *#18*<Where>*514#<M>*<Tag>*<Val>## …	<**M**> month <Tag> number of the measure: 1 to 31

5.1.7 *Actuator Enable:*

Action Connection	Open Frame	Note
Client → Server	*18*71*where##	
Client ← Server	*#*1##	

5.1.8 *Forced Actuator for X Time:*

Action Connection	Open Frame	Note
Client → Server	*18*73#<Time>*where##	**<Time>** Expressed in Tens of min values from 1 to 254 from 10m to 2h 20m

Client ← Server	*#*1##	

5.1.9 *Forced actuator for Default Time:*

Action Connection	Open Frame	Note
Client → Server	*18*73*where##	
Client ← Server	*#*1##	

5.1.10 *End forced Actuator:*

Action Connection	Open Frame	Note
Client → Server	*18*74*where##	
Client ← Server	*#*1##	

5.1.11 *Reset totalizers:*

Action Connection	Open Frame	Note
Client → Server	*18*75#<Tot_N>*where##	**<Tot_N>** Totalizer Number: values from 1 to 2
Client ← Server	*#*1##	

5.2 **Dimensions request**

5.2.1 *Request Status Stop & Go*

Action Connection	Open Frame	Note
Client → Server	*#18*where*250##	request Status control module systems
Client ← Server	*#18*<Where>*250*<MASC>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.2 *Request Status Stop & Go (open or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*251##	
Client ← Server	*#18*<Where>*251*<b1>##	b1 = 1 means open b1 = 0 means close
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.3 *Request Status Stop & Go (failure or no failure)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*252##	
Client ← Server	*#18*<Where>*252*<b2>##	b2= 1 means failure b2= 0 means no failure
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off

		b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.4 *Request Status Stop & Go (block or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*253##	
Client ← Server	*#18*<Where>*253*<b3>##	b3= 1 means block b3= 0 means close
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure in the valley b13→Power failure upstream

5.2.5 *Request Status Stop & Go (open for CC between the N or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*254##	
Client ← Server	*#18*<Where>*254*<b4>##	b4 = 1 means Open for CC between the N b4= 0 means Close
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is:

	#18<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.6 *Request Status Stop & Go (opened Ground fault or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*255##	
Client ← Server	*#18*<Where>*255*<b5>##	b5 = 1 means opened ground fault b5= 0 means close
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.7 *Request Status Stop & Go (open for Vmax or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*256##	

Client ← Server	*#18*<Where>*256*<b6>##	b6 =1 means open for Vmax b6= 0 means close
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.8 *Request Status Stop & Go (Self test disabled or Self test abled)*

Action Connection	**Open Frame**	**Note**
Client → Server	*#18*where*257##	
Client ← Server	*#18*<Where>*257*<b7>##	b7 =1 means self test disabled b7= 0 means self test abled
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream

		b13→Power failure upstream

5.2.9 *Request Status Stop & Go (automatic reset off or on)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*258##	
Client ← Server	*#18*<Where>*258*<b8>##	b8 =1 means automatic reset off b8= 0 means automatic reset on
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.10 *Request Status Stop & Go (Check off or on)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*259##	
Client ← Server	*#18*<Where>*259*<b9>##	b9 =1 means check off b9= 0 means check on
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N

	#18<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.11 *Request Status Stop & Go (waiting for closing or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*260##	
Client ← Server	*#18*<Where>*260*<b10>##	b10 =1 Waiting for closing b10= 0 means close
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.12 *Request Status Stop & Go (first 24 hours of opening or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*261##	
Client ← Server	*#18*<Where>*261*<b11>##	b11 =1 means first 24 hours of opening b11= 0 means close
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**

Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.13 *Request Status Stop & Go (Power failure downstream or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*262##	
Client ← Server	*#18*<Where>*262*<b12>##	b12 =1 Power failure downstream b12= 0 means no failure
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.14 *Request Status Stop & Go (Power failure upstream or close)*

Action Connection	Open Frame	Note
Client → Server	*#18*where*263##	
Client ← Server	*#18*<Where>*263*<b13>##	b13 =1 Power failure upstream b13= 0 means no failure
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*250*<MASC>## *#18*<Where>*251*<b1>## *#18*<Where>*252*<b2>## *#18*<Where>*253*<b3>## *#18*<Where>*254*<b4>## *#18*<Where>*255*<b5>## *#18*<Where>*256*<b6>## *#18*<Where>*257*< b7>## *#18*<Where>*258*< b8>## *#18*<Where>*259*< b9>## *#18*<Where>*260*< b10>## *#18*<Where>*261*< b11>## *#18*<Where>*262*< b12>## *#18*<Where>*263*< b13>##	**MASC**: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1 The meaning of each bit is: b1→open b2→failure b3→block b4→Open for CC between the N b5→Opened Ground Fault b6→Open for Vmax b7→Self-test disabled b8→Automatic reset off b9→Check off b10→Waiting for closing b11→First 24 hours of opening b12→Power failure downstream b13→Power failure upstream

5.2.15 *Start sending instantaneous consumption:*

Action Connection	Open Frame	Note
Client → Server	*#18*<Where>*#1200#<Type>*<Time>##	**Time**: Indicates after how many minutes it sends the consumption if it changes. Values from 1 to 255 **Type**: 1 = active power
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*1200#<Type>*<Time>##	
Client ← Server	*#18*<where>*113*<Val>##	Val = Watt

5.2.16 *Stop sending the instantaneous consumption*

Action Connection	Open Frame	Note
Client → Server	*#18*where*#1200#<Type>*0##	**Type** = Type of Energy 1 = active power
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*1200#<Type>*0##	

5.2.17 *Request the daily totalizers on an hourly basis for 16-bit for daily graphics*

Action Connection	Open Frame	Note
Client → Server	*#18*<Where>*511#<M>#<D>##	<**M**> month <**D**> day
Client ← Server	*#18*<Where>*511#<M>#<D>*<Tag>*<Val>## *#18*<Where>*511#<M>#<D>*<Tag>*<Val>## …. *#18*<Where>*511#<M>#<D>*<Tag>*<Val>## *#18*<Where>*511#<M>#<D>*25*<TOT>##	<Tag> number of the measure: 1 to 24 <Val> Value Unit Watt/h <TOT> Daily Total Watt/h
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*511#<M>#<D>*<Tag>*<Val>## *#18*<Where>*511#<M>#<D>*<Tag>*<Val>## …. *#18*<Where>*511#<M>#<D>*<Tag>*<Val>## *#18*<Where>*511#<M>#<D>*25*<TOT>##	<Tag> number of the measure: 1 to 24 <Val> Value Unit Watt/h <TOT> Daily Total Watt/h

5.2.18 *Request active power:*

Action Connection	Open Frame	Note
Client → Server	*#18*<Where>*113##	
Client ← Server	*#18*<Where>*113*<Val>##	<Val> =WATT
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<Where>*113*<Val>##	

		<Val> =Watt

5.2.19 *Request energy / unit Totalizer:*

Action Connection	Open Frame	Note
Client → Server	*#18*where*51##	
Client ← Server	*#18*where*51*<Val>##	Val> =Watt
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*51*<Val>##	Val> =Watt

5.2.20 *Request Totalizer energy /units per month:*

Action Connection	Open Frame	Note
Client → Server	*#18*where*52#<Y>#<M>##	**<Y>** Year in yy format **<M>** Month
Client ← Server	*#18*where*52#<Y>#<M>*<Val>##	< Val> =Watt
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*52#<Y>#<M>*<Val>##	Val> =Watt

5.2.21 *Request partial Totalizer for current month:*

Action Connection	Open Frame	Note
Client → Server	*#18*where*53##	Request partial totalizers for current month
Client ← Server	*#18*where*53*<Val>##	Val> =Watt
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*53*<Val>##	Val> =Watt

5.2.22 *Request partial Totalizer for current day:*

Action Connection	Open Frame	Note

Client → Server	*#18*where*54##	request Status control module systems
Client ← Server	*#18*where*54*<Val>##	Val> =Watt
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*54*<Val>##	Val> =Watt

5.2.23 *Request actuators status:*

Action Connection	**Open Frame**	**Note**
Client → Server	*#18*where*71##	
Client ← Server	*#18*where*71*<disabled>* <forcing>* <threshold>*<protection>* <phase>*<advanced>##	Disabled: • 1 = Disabled • 0 = Enabled Forcing: •1 = Forced •0 = Not Forced Threshold: •1 = Below Threshold •0 = Above Threshold Protection: •1 = Protection •0 = Not Protection phase •1 = Disable of Local Phase •0 = Disable of Other Phase advanced •1 = Advanced •2 = Basic
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*71*<disabled>* <forcing>* <threshold>*<protection>* <phase>*<advanced>##	Disabled: • 1 = Disabled • 0 = Enabled Forcing: •1 = Forced

		•0 = Not Forced Threshold: •1 = Below Threshold •0 = Above Threshold Protection: •1 = Protection •0 = Not Protection phase •1 = Disable of Local Phase •0 = Disable of Other Phase advanced •1 = Advanced •2 = Basic

5.2.24 *Request totalizers:*

Action Connection	Open Frame	Note
Client → Server	*#18*where*72#<Tot_N>##	**<Tot_N>** Totalizer Number: values from 1 to 2
Client ← Server	*#18*where*72#<Tot_N>*<Energy>*<D>*<M>*<Y>*<H>*<m>##	**<Tot_N>** Totalizer Number: values from 1 to 2 **<Energy>** Energy from the reset expressed in Wh **<D>**Day of the last reset **<M>**Month of the last reset **<Y>**Year of the last reset **<H>**Hour of the last reset **<m>** Minute of the last reset
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*72#<Tot_N>*<Energy>*<D>*<M>*<Y>*<H>*<m>##	**<Tot_N>** Totalizer Number: values from 1 to 2 **<Energy>** Energy from the reset expressed in Wh **<D>**Day of the last reset **<M>**Month of the last reset **<Y>**Year of the last reset

		<H>Hour of the last reset **<m>** Minute of the last reset

5.2.25 *Request differential current level:*

Action Connection	Open Frame	Note
Client → Server	*#18*where*73##	
Client ← Server	*#18*where*73*<level >##	**<level >** Values from 1 to 3
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*73*<level >##	**<level >** Values from 1 to 3

5.3 **Setup dimension**

5.3.1 *Automatic Update size:*

Action Connection	Open Frame	Note
Client → Server	*#18*<Where>*#1200#<Type>*<Time>##	**Time**: Indicates after how many minutes it inform the status update. values from 1 to 255. **Type**: Type of Energy: 1 = active power
Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*<where>*113*<Val>##	Val = Watt

5.3.2 *End Automatic Update size:*

Action Connection	Open Frame	Note
Client → Server	*#18*where*#1200#<Type>*0##	**Type**: Type of Energy: 1 = active power

Client ← Server	*#*1##	
Event Connection	**Open Frame**	**Note**
Client ← Server	*#18*where*#1200#<Type>*0##	

6 EVENT CONNECTION

6.1 Actuators status:

Event Connection	Open Frame	Note
Client ← Server	*#18*where*71*<disabled>* <forcing>* <threshold>*<protection>* <phase>*<advanced>##	Disabled: • 1 = Disabled • 0 = Enabled Forcing: •1 = Disabled •0 = Enabled Threshold: •1 = Below Threshold •0 = Above Threshold Protection: •1 = Protection •0 = Not Protection phase •1 = Disable of Local Phase •0 = Disable of Other Phase advanced •1 = Advanced •2 = Basic

6.2 totalizers:

Event Connection	Open Frame	Note
Client ← Server	*#18*where*72#<Tot_N>*<Energy>* <D>*<M>*<Y>*<H>*<m>##	**<Tot_N>** Totalizer Number: values from 1 to 2 **<Energy>** Energy from the reset expressed in Wh **<D>**Day of the last reset **<M>**Month of the last reset **<Y>**Year of the last reset **<H>**Hour of the last reset **<m>** Minute of the last reset

6.3 Differential Current Level:

Event Connection	Open Frame	Note
Client ← Server	*#18*where*73*<level >##	**<level >** Values from 1 to 3

6.4 Answer to the active power request:

Event Connection	Open Frame	Note
Client ← Server	*#18*<Where>*113*<Val>##	Request active power **Val = Watt**

6.5 Answer to the energy / unit totalizer request:

Event Connection	Open Frame	Note
Client ← Server	*#18*where*51*<Val>##	Request energy / unit Totalizer **Val = Watt**

6.6 Answer to the totalizer energy/units per month request:

Event Connection	Open Frame	Note
Client ← Server	*#18*where*52#<Y>#<M>*<Val>##	Request Totalizer energy /units per month **Val = Watt**

6.7 Answer to the partial totalizer for current month request:

Event Connection	Open Frame	Note
Client ← Server	*#18*where*53*<Val>##	Request partial Totalizer for current month **Val = Watt**

6.8 Answer to the partial totalizer for current day request:

Event Connection	Open Frame	Note
Client ← Server	*#18*where*54*<Val>##	Request partial Totalizer for current day **Val = Watt**

License

.

Disclaimers