



OPEN PROTOCOL FOR ELECTRICAL NETWORKS

Energy Management Functions

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

Document History

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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

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		<MED> Monthly Average Wh / Unit
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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

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Client ← Server	*#*1##	
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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>##	<p>MASC: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1</p> <p>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</p>
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>##	<p>MASC: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1</p> <p>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</p>

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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

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

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	<pre> *#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>## </pre>	<pre> 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 </pre>
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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	<pre> *#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>## </pre>	<p>MASC: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1</p> <p>The meaning of each bit is:</p> <pre> 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 </pre>

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

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

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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

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	b13→Power failure upstream
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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

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	#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
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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

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Client ← Server	<pre> *#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> ## </pre>	<p>MASC: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1</p> <p>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</p>
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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	<pre> *#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> ## </pre>	<p>MASC: 13-bit mask that indicates the device status b13b12b11b10b9b8b7b6b5b4b3b2b1</p> <p>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</p>

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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>##	

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		<Val> =Watt
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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
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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>##	<p>Disabled:</p> <ul style="list-style-type: none"> • 1 = Disabled • 0 = Enabled <p>Forcing:</p> <ul style="list-style-type: none"> •1 = Forced •0 = Not Forced <p>Threshold:</p> <ul style="list-style-type: none"> •1 = Below Threshold •0 = Above Threshold <p>Protection:</p> <ul style="list-style-type: none"> •1 = Protection •0 = Not Protection <p>phase</p> <ul style="list-style-type: none"> •1 = Disable of Local Phase •0 = Disable of Other Phase <p>advanced</p> <ul style="list-style-type: none"> •1 = Advanced •2 = Basic
Client ← Server	*#*1##	
Event Connection	Open Frame	Note
Client ← Server	*#18*where*71*<disabled>*<forcing>*<threshold>*<protection>*<phase>*<advanced>##	<p>Disabled:</p> <ul style="list-style-type: none"> • 1 = Disabled • 0 = Enabled <p>Forcing:</p> <ul style="list-style-type: none"> •1 = Forced

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		<ul style="list-style-type: none"> •0 = Not Forced <li style="padding-left: 40px;">Threshold: •1 = Below Threshold •0 = Above Threshold <li style="padding-left: 40px;">Protection: •1 = Protection •0 = Not Protection <li style="padding-left: 40px;">phase •1 = Disable of Local Phase •0 = Disable of Other Phase <li style="padding-left: 40px;">advanced •1 = Advanced •2 = Basic
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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

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		<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

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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	<pre> *#18*where*71*<disabled>* <forcing>* <threshold>*<protection>* <phase>*<advanced>## </pre>	<p>Disabled:</p> <ul style="list-style-type: none"> • 1 = Disabled • 0 = Enabled <p>Forcing:</p> <ul style="list-style-type: none"> •1 = Disabled •0 = Enabled <p>Threshold:</p> <ul style="list-style-type: none"> •1 = Below Threshold •0 = Above Threshold <p>Protection:</p> <ul style="list-style-type: none"> •1 = Protection •0 = Not Protection <p>phase</p> <ul style="list-style-type: none"> •1 = Disable of Local Phase •0 = Disable of Other Phase <p>advanced</p> <ul style="list-style-type: none"> •1 = Advanced •2 = Basic

6.2 totalizers:

Event Connection	Open Frame	Note
Client ← Server	<pre> *#18*where*72#<Tot_N>*<Energy>* <D>*<M>*<Y>*<H>*<m>## </pre>	<p><Tot_N> Totalizer Number: values from 1 to 2</p> <p><Energy> Energy from the reset expressed in Wh</p> <p><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</p>

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

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