Liebert - NXr - BACnet Mapping FDM Version #860

Binary Data

System Status

Data Label	Object Type	Instance	Object Name	Access	Notes
Battery Auto Test In Progress	Binary_Value	1	4172	RD	
Battery Equalize	Binary_Value	2	4170	RD	
Battery Charging Inhibited	Binary_Value	3	4200	RD	
On Generator	Binary_Value	4	4315	RD	

System Events

Data Label	Object Type	Instance	Object Name	Access	Notes
System Input Power Problem	Binary_Value	15	4122	RD	
Rectifier Failure	Binary_Value	16	4295	RD	
Inverter Failure	Binary_Value	17	4233	RD	
Bypass Not Available	Binary_Value	18	4135	RD	
Battery Low	Binary_Value	19	4162	RD	
LBS Inhibited	Binary_Value	20	4758	RD	
System Fan Failure	Binary_Value	21	4311	RD	
Equipment Over Temperature	Binary_Value	22	4310	RD	
System Shutdown - EPO	Binary_Value	23	4213	RD	
Bypass Static Switch Unavailable	Binary_Value	24	4143	RD	
Bypass - Excess Auto Retransfers	Binary_Value	25	4139	RD	
Parallel Comm Warning	Binary_Value	26	4823	RD	
Power Supply Failure	Binary_Value	27	4314	RD	
Battery Over Temperature	Binary_Value	28	4219	RD	
System Input Phs Rotation Error	Binary_Value	29	4146	RD	
Fuse Failure	Binary_Value	30	4440	RD	
Inverter Overload Phase A	Binary_Value	31	4234	RD	
Inverter Overload Phase B	Binary_Value	32	4235	RD	
Inverter Overload Phase C	Binary_Value	33	4236	RD	
MMS Overload	Binary_Value	34	4831	RD	
Inverter Shutdown - Overload	Binary_Value	35	4290	RD	
System Output Fault	Binary_Value	36	4389	RD	
Internal Communications Failure	Binary_Value	37	4300	RD	
Battery Charging Error	Binary_Value	38	4164	RD	
System Input Current Imbalance	Binary_Value	39	4382	RD	
Main Battery Disconnect Open	Binary_Value	40	4173	RD	

Inverter Static Switch SCR Short	Binary_Value	41	4391	RD	
Battery Not Qualified	Binary_Value	42	5149	RD	
Battery Terminals Reversed	Binary_Value	43	5150	RD	
Battery Converter Failure	Binary_Value	44	5151	RD	
Inverter SCR Open	Binary_Value	45	5152	RD	
Load Sharing Fault	Binary_Value	46	5153	RD	
DC Bus Abnormal	Binary_Value	47	5154	RD	
Mains Input Neutral Lost	Binary_Value	48	5155	RD	
Load Impact Transfer	Binary_Value	49	5156	RD	
User Operation Invalid	Binary_Value	50	5157	RD	
Power Sub Module Fault	Binary_Value	51	5158	RD	
Battery Discharging	Binary_Value	52	4168	RD	
UPS Output on Bypass	Binary_Value	53	4298	RD	
Output Load on Maint. Bypass	Binary_Value	54	4299	RD	
Battery Capacity Low	Binary_Value	55	4166	RD	
MMS On Battery	Binary_Value	56	4834	RD	

Analog Data

Input

Data Label	Object Type	Instance	Object Name	Access	Notes
System Input RMS A-B	Analog_Value	1	4097	RD	
System Input RMS B-C	Analog_Value	2	4099	RD	
System Input RMS C-A	Analog_Value	3	4101	RD	
System Input RMS Current Phase A	Analog_Value	4	4113	RD	
System Input RMS Current Phase B	Analog_Value	5	4114	RD	
System Input RMS Current Phase C	Analog_Value	6	4115	RD	
System Input Frequency	Analog_Value	7	4105	RD	
System Input RMS A-N	Analog_Value	8	4096	RD	
System Input RMS B-N	Analog_Value	9	4098	RD	
System Input RMS C-N	Analog_Value	10	4100	RD	
System Input Power Factor Phs A	Analog_Value	11	4116	RD	
System Input Power Factor Phs B	Analog_Value	12	4117	RD	
System Input Power Factor Phs C	Analog_Value	13	4118	RD	

Bypass

Data Label	Object Type	Instance	Object Name	Access	Notes
Bypass Input Voltage RMS A-N	Analog_Value	24	4128	RD	
Bypass Input Voltage RMS B-N	Analog_Value	25	4129	RD	

Bypass Input Voltage RMS C-N	Analog_Value	26	4130	RD	
Bypass Input Frequency	Analog_Value	27	4131	RD	

Battery

Data Label	Object Type	Instance	Object Name	Access	Notes
Battery Time Remaining	Analog_Value	38	4150	RD	
Battery Volts for Cabinet	Analog_Value	39	4155	RD	
Battery Temperature for Cabinet	Analog_Value	40	4156	RD	
Inlet Air Temperature	Analog_Value	41	4291	RD	
DC Bus Current	Analog_Value	42	4149	RD	

Output

Data Label	Object Type	Instance	Object Name	Access	Notes
System Output Voltage RMS A-N	Analog_Value	53	4385	RD	
System Output Voltage RMS B-N	Analog_Value	54	4386	RD	
System Output Voltage RMS C-N	Analog_Value	55	4387	RD	
System Output RMS Current Phs A	Analog_Value	56	4204	RD	
System Output RMS Current Phs B	Analog_Value	57	4205	RD	
System Output RMS Current Phs C	Analog_Value	58	4206	RD	
System Output Frequency	Analog_Value	59	4207	RD	
System Output Voltage RMS A-B	Analog_Value	60	4201	RD	
System Output Voltage RMS B-C	Analog_Value	61	4202	RD	
System Output Voltage RMS C-A	Analog_Value	62	4203	RD	
System Output Power Factor Phs A	Analog_Value	63	4210	RD	
System Output Power Factor Phs B	Analog_Value	64	4211	RD	
System Output Power Factor Phs C	Analog_Value	65	4212	RD	
System Output Pct Power Phase A	Analog_Value	66	4223	RD	
System Output Pct Power Phase B	Analog_Value	67	4224	RD	
System Output Pct Power Phase C	Analog_Value	68	4225	RD	
MMS Output Apparent Power	Analog_Value	69	4812	RD	
MMS Output Power	Analog_Value	70	4811	RD	
System Output Apparent Power	Analog_Value	71	4209	RD	
System Output Power	Analog_Value	72	4208	RD	
Output Current Crest Factor Phs A	Analog_Value	73	5159	RD	
Output Current Crest Factor Phs B	Analog_Value	74	5160	RD	
Output Current Crest Factor Phs C	Analog_Value	75	5161	RD	

System Configuraton

Data Label	Object Type	Instance	Object Name	Access	Notes

System Date and Time	Analog_Value	86	4293	RW	

Multistate Data

Battery

Data Label	Object Type	Instance	Object Name	Access	Notes
UPS battery1 status	MultiState_Value	1	4871	RD	1 = Unknown 2 = Normal 3 = Low 4 = Depleted

System Status

Data Label	Object Type	Instance	Object Name	Access	Notes
Inverter On/Off State	MultiState_Value	12	4746	RD	1 = off 2 = on
Maintenance Bypass Breaker (MBB)	MultiState_Value	13	4772	RD	1 = Open 2 = Close 3 = Not Installed
UPS Output Source	MultiState_Value	14	4872	RD	1 = Other 2 = Off 3 = Normal 4 = Bypass 5 = Battery 6 = Booster 7 = Reducer
System Status	MultiState_Value	15	4123	RD	1 = Normal Operation 2 = StartUp 3 = Normal with Warning 4 = Normal with Alarm 5 = Abnormal Operation

Glossary

Data Label	Data Description
Battery Auto Test In Progress	Automatic battery test is in progress
Battery Capacity Low	Battery capacity is low
Battery Charging Error	The battery is not charging properly
Battery Charging Inhibited	Battery charging is inhibited due to an external inhibit signal
Battery Converter Failure	Battery converter failure. This is a summary event caused by one or more power sub-modules in a UPS module.
Battery Discharging	The battery is discharging

Battery Equalize	The rectifier output voltage is increased to equalize the battery voltage level.
Battery Low	The calculated battery time remaining has reached the low battery threshold
Battery Not Qualified	The UPS battery voltage is not qualified. This event will be detected even in the absence of battery disconnect or when it is open.
Battery Over Temperature	A battery temperature sensor is reporting a value above a threshold
Battery Temperature for Cabinet	The battery temperature for a cabinet
Battery Terminals Reversed	The measured battery voltage is a negative value due to reverse battery terminal connections.
Battery Time Remaining	The calculated available time on battery
Battery Volts for Cabinet	The voltage between the positive and negative battery terminals of a battery cabinet
Bypass - Excess Auto Retransfers	The number of auto retransfers, from bypass to inverter, has exceeded the maximum for a specified time interval
Bypass Input Frequency	The bypass input frequency
Bypass Input Voltage RMS A-N	The bypass input RMS voltage between phase A and Neutral
Bypass Input Voltage RMS B-N	The bypass input RMS voltage between phase B and Neutral
Bypass Input Voltage RMS C-N	The bypass input RMS voltage between phase C and Neutral
Bypass Not Available	A problem associated with the bypass has been detected
Bypass Static Switch Unavailable	The static bypass switch is off, and unable to operate
DC Bus Abnormal	The system has detected an abnormal DC Bus Voltage.
DC Bus Current	The current at the battery input terminals. In charging mode, the current will be a positive value. In discharging mode, the current will be a negative value
Equipment Over Temperature	Equipment over temperature summary event
Fuse Failure	A summary event indicating one or more fuse failures
Inlet Air Temperature	The temperature of the inlet air
Internal Communications Failure	The control has detected a communication failure of a component on the internal communication bus
Inverter Failure	Inverter failure - inverter output is off
Inverter On/Off State	inverter on/off state
Inverter Overload Phase A	Inverter is operating with an overload on phase A
Inverter Overload Phase B	Inverter is operating with an overload on phase B
Inverter Overload Phase C	Inverter is operating with an overload on phase C
Inverter SCR Open	The system has detected an open across one or more inverter static switch Silicon Controlled Rectifiers.
Inverter Shutdown - Overload	The inverter has shutdown due to a sustained overload
Inverter Static Switch SCR Short	The system has detected a short across one or more inverter static switch Silicon Controlled Rectifiers (SCR)
LBS Inhibited	The system has detected that conditions to perform Load Bus Sync are not satisfied
Load Impact Transfer	On bypass as result of load impact.
Load Sharing Fault	Difference between any phase inverter current of unit and the relevant average output current of parallel system is more than a specific percent of nominal current.
Main Battery Disconnect Open	Main battery disconnect is open
Mains Input Neutral Lost	Loss of neutral in the input source is detected.
Maintenance Bypass Breaker (MBB)	Maintenance bypass breaker (MBB)

MMS On Battery	The multi-module system is on battery
MMS Output Apparent Power	The sum total apparent power of all system output modules
MMS Output Power	The sum total power of all system output modules
MMS Overload	Multi-module system overload
On Generator	A generator is supplying the power to the system
Output Current Crest Factor Phs A	Output current crest factor of Phase A.
Output Current Crest Factor Phs B	Output current crest factor of Phase B.
Output Current Crest Factor Phs C	Output current crest factor of Phase C.
Output Load on Maint. Bypass	The output power is supplied by the maintenance bypass
Parallel Comm Warning	Parallel communication bus warning
Power Sub Module Fault	One or more failures detected in power module, inverter or rectifier.
Power Supply Failure	Power supply failure
Rectifier Failure	Rectifier failure - rectifier is off
System Date and Time	The system date and time
System Fan Failure	System fan failure - one or more fans have failed
System Input Current Imbalance	System Input Currents are Imbalanced
System Input Frequency	The system input frequency
System Input Phs Rotation Error	The power conductors on the input line are not wired to the UPS in the sequence preferred for the rectifier (A-B-C)
System Input Power Factor Phs A	The system input power factor for Phase A
System Input Power Factor Phs B	The system input power factor for Phase B
System Input Power Factor Phs C	The system input power factor for Phase C
System Input Power Problem	The input is not qualified to provide power to the system
System Input RMS A-B	The System Input RMS Voltage between Phase A and Phase B
System Input RMS A-N	The System Input RMS Voltage between Phase A and Neutral
System Input RMS B-C	The System Input RMS Voltage between Phase B and Phase C
System Input RMS B-N	The System Input RMS Voltage between Phase B and Neutral
System Input RMS C-A	The System Input RMS Voltage between Phase C and Phase A
System Input RMS C-N	The System Input RMS Voltage between Phase C and Neutral
System Input RMS Current Phase A	The system input RMS current for Phase A
System Input RMS Current Phase B	The system input RMS current for Phase B
System Input RMS Current Phase C	The system input RMS current for Phase C
System Output Apparent Power	The sum total apparent power of all system output phases
System Output Fault	A fault has been detected in the system output
System Output Frequency	The system output frequency
System Output Pct Power Phase A	The system output power on phase A as a percentage of the rated capacity
System Output Pct Power Phase B	The system output power on phase B as a percentage of the rated capacity
System Output Pct Power Phase C	The system output power on phase C as a percentage of the rated capacity
System Output Power Factor Phs A	The system output power factor of phase A
System Output Power Factor Phs B	The system output power factor of phase B

System Output Power Factor Phs C	The system output power factor of phase C
System Output Power	The sum total power of all system output phases
System Output RMS Current Phs A	The system output RMS current for Phase A
System Output RMS Current Phs B	The system output RMS current for Phase B
System Output RMS Current Phs C	The system output RMS current for Phase C
System Output Voltage RMS A-B	The system output RMS voltage between phases A and B
System Output Voltage RMS A-N	The system output RMS voltage between phases A and Neutral
System Output Voltage RMS B-C	The system output RMS voltage between phases B and C
System Output Voltage RMS B-N	The system output RMS voltage between phases B and Neutral
System Output Voltage RMS C-A	The system output RMS voltage between phases C and A
System Output Voltage RMS C-N	The system output RMS voltage between phases C and Neutral
System Shutdown - EPO	System shutdown due to Emergency Power Off (EPO)
System Status	The operating status for the system
UPS battery1 status	UPS battery status
UPS Output on Bypass	The output power is supplied by the bypass
UPS Output Source	UPS output source
User Operation Invalid	User attempted an invalid operation.