Date: November 30, 2012
Vendor Name: LOYTEC electronics GmbH
Product Name: L-IOB I/O Module & Controller
Product Model Number: LIOB-55x/58x
Applications Software Version: V4
Firmware Revision: 4.5
BACnet Protocol Revision: 135-2010 (1.7)

Product Description:

This product implements a BACnet I/O module (LIOB-55x) and freely programmable BACnet I/O controller (LIOB-58x). It comes in different models providing different functions and I/O configurations to the same BACnet protocol interface. The LIOB-55x models provide direct access to I/Os over BACnet objects. The LIOB-58x models contain additional controller logic. The controller application is developed using an IEC-61131 compliant design tool. There can be up to 200 BACnet server objects. For visualization, this product implements an embedded BACnet OPC XML-DA server. The device also implements BACnet Schedule, Calendar, Trend Log, and Notification Class objects. Alarming is based on intrinsic reporting. The device also implements client functions for simple objects. The configuration of the device is accomplished by PC software. The product is equipped with a BACnet/IP interface and can act as a BACnet time master.

BACnet Standardized Device Profile (Annex L):

BACnet Building Controller (B-BC)

BACnet Interoperability Building Blocks Supported (Annex K):

Data Sharing – ReadProperty-A (DS-RP-A)
Data Sharing – ReadProperty-B (DS-RP-B)
Data Sharing – ReadPropertyMultiple-A (DS-RPM-A)
Data Sharing – ReadPropertyMultiple-B (DS-RPM-B)
Data Sharing – WriteProperty-A (DS-WP-A)
Data Sharing – WriteProperty-B (DS-WP-B)
Data Sharing – WritePropertyMultiple-B (DS-WPM-B)
Data Sharing – COV-A (DS-COV-A)
Data Sharing – COV-B (DS-COV-B)
Data Sharing – COVP-A (DS-COVP-A)
Data Sharing – COVP-B (DS-COVP-B)
Data Sharing – COV Unsolicited-B (DS-COVU-B)
Alarm and Event – Notification Internal-B (AE-N-I-B)
Alarm and Event – ACK-B (AE-ACK-B)
Alarm and Event – Alarm Summary-B (AE-ASUM-B)
Alarm and Event – Alarm Enrollment Summary-B (AE-ESUM-B)
Alarm and Event – Alarm Information-B (AE-INFO-B)
Scheduling – Internal-B (SCHED-I-B)
Scheduling – External-B (SCHED-E-B)
Trending – Viewing and Modifying Trends Internal-B (T-VMT-I-B)
Trending – Viewing and Modifying Trends External-B (T-VMT-E-B)
Trending – Automated Trend Retrieval-B (T-ATR-B)
Device Management – DynamicDeviceBinding-A (DM-DDB-A)
Device Management – DynamicDeviceBinding-B (DM-DDB-B)
Device Management – DynamicObjectBinding-B (DM-DOB-B)
Device Management – TimeSynchronization-A (DM-TS-A)
Device Management – TimeSynchronization-B (DM-TS-B)
Device Management – UTCTimeSynchronization-A (DM-UTC-A)

Device Management – UTCTimeSynchronization-B (DM-UTC-B)
Device Management – Automatic Time Synchronization-a (DM-ATS-A)
Device Management – DeviceCommunicationControl-B (DM-DCC-B)
Device Management – ReinitializeDevice-B (DM-RD-B)
Device Management – Backup and Restore (DM-BR-B)
Device Management – List Manipulation-B (DM-LM-B)
Network Management – Connection Establishment-A (NM-CE-A)

Segmentation Capability:

Segmented requests supported, window size: 16
Segmented responses supported, window size: 16

Standard Object Types Supported:

For all the objects below the following apply if not stated otherwise:

1) Does not support the CreateObject and DeleteObject service
2) Properties Object_Name, Description support up to 64 characters
3) Includes the required properties as specified for the object class
4) All commandable objects support the Priority_Array and Relinquish_Default with 16 freely usable priorities
5) All analog, binary, multi-state objects support COV subscriptions
6) No additional writeable properties exist
7) No proprietary properties exist
8) No range restrictions exist
9) Analog, binary, and multi-state objects are limited to 200 objects in total

Device Object

List of optional properties supported:
Location, Description, Max_Segments_Accepted, APDU_Segment_Timeout, Active_COV_Subscriptions, Configuration_Files, Last_Restore_Time, Backup_Failure_Timeout, Local_Time, Local_Date, UTC_Offset, Daylight_Saving_Status, Time_Synchronization_Recipients, UTC_Time_Synchronization_Recipients, Time_Synchronization_Interval, Align_Intervals, Interval_Offset

Analog Input, Analog Output, Analog Value

List of optional properties supported:
Description, Reliability, Min_Pres_Value, Max_Pres_Value, COV_Increment, Time_Delay, Notification_Class, Low_Limit, High_Limit, Deadband, Limit_Enable, Event_Enable, Acked_Transitions, Event_Time_Stamps

Binary Input, Binary Output, Binary Value

List of optional properties supported:
Description, Reliability, Active_Text, Inactive_Text, Time_Delay, Notification_Class, Alarm_Value, Feedback_Value, Event_Enable, Acked_Transitions, Notify_Type, Event_Time_Stamps

Multi-State Input, Multi-state Output, Multi-State Value

List of optional properties supported:
Description, Reliability, State_Text, Time_Delay, Notification_Class, Alarm_Values, Fault_Values, Feedback_Values, Event_Enable, Acked_Transitions, Notify_Type, Event_Time_Stamps

Notification Class Object, Schedule Object, Calendar Object

List of optional properties supported (as applies):
Description, Weekly_Schedule, Exception_Schedule
Object limit for LIOB-55x: 16 Notification Class, 5 Schedule, 10 Calendar objects.
Object limit for LIOB-58x: 32 Notification Class, 10 Schedule, 25 Calendar objects.

Trend Log Object

List of optional properties supported:
Description, Start_Time, Stop_Time, Log_DeviceObjectProperty, Log_Interval, COV_Resubscription_Interval, Client_COV_Increment, Notification_Threshold, Records_Since_Notification, Last_Notify_Record, Notification_Class, Event_Enable, Acked_Transitions, Notify_Type, Event_Time_Stamps, Reliability
Object limit for LIOB-55x: 10 Trend Log objects. There is an aggregated limit of 131,064 log records over all Trend Log objects.
Object limit for LIOB-58x: 50 Trend Log objects. There is an aggregated limit of 393,192 log records over all Trend Log objects.

File Object

List of optional properties supported: –
Object limit: 1 File object. This object is used for configuration backup and restore.

Data Link Layer Options:

☑ BACnet IP, (Annex J)
☐ BACnet IP, (Annex J), Foreign Device
☐ ISO 8802-3, Ethernet (Clause 7)
☐ MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 76800
☐ MS/TP slave (Clause 9), baud rate(s):
☐ Point-To-Point, EIA 232 (Clause 10), baud rate(s):
☐ Point-To-Point, modem, (Clause 10), baud rate(s):
☐ LonTalk, (Clause 11), medium:

Device Address Binding:

Static device address binding is supported.

Networking Options:

☐ Router, Clause 6 – MS/TP to BACnet/IP
☐ Annex H, BACnet Tunneling Router over IP
☐ BACnet/IP Broadcast Management Device (BBMD)
☐ Registrations by Foreign Devices[3]

Character Sets Supported:

The device is configurable for one of the following character sets at a time. It does not support them simultaneously.

☑ ANSI X3.4/UTF-8	☐ IBM™/Microsoft™ DBCS	☑ ISO 8859-1
☑ ISO 10646 (UCS-2)	☐ ISO 10646 (UCS-4)	☐ JIS C 6226

If this product is a communication gateway, describe the non-BACnet equipment/network(s) that the gateway supports:

This product is not a communication gateway.

Additional Information and Contact:

Further Information, a detailed User Manual and firmware updates can be obtained from our website ***http://www.loytec.com***.

For information and technical support please contact us at the following address:

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