Wireless Sensor Nodes

Battery Use and Replacement

Overview

All LORD MicroStrain® wireless sensor nodes may be operated with batteries. These batteries come in various forms. Certain nodes have embedded rechargeable batteries; certain nodes have provisions for replaceable batteries within their enclosure; certain nodes have provisions for external batteries to be attached; certain nodes are provided in IP environmental enclosures and have additional battery banks; and so forth. This technical note describes the battery provisioning for each of the LORD MicroStrain® wireless sensor nodes and details important precautions relating to battery use and replacement.

V-Link®-LXRS® Wireless 7 Channel Analog Input Sensor Node	Part number: 6312-1000
Embedded internal battery: The node contains a 3.7 volt 650 mAh lithium rechargeable battery. This battery should only be recharged using the Phihong model PSA05R-090 9 VDC charger provided with the node. This battery should never be removed by the user and only be replaced by the factory.	***External battery:*** The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. The user is cautioned to carefully follow the instructions given in this technical note. The battery may be rechargeable or non-rechargeable. Suggested external batteries include the Tadiran™ TL lithium non-rechargeable battery series (AA, D, etc.).

SG-Link®-LXRS® Wireless 2 Channel Analog Input Sensor Node	Part number: 6308-3000
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery should only be recharged using the Phihong model PSA05R-090 9 VDC charger provided with the node. This battery should never be removed by the user and only be replaced by the factory.	***External battery:*** The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. The user is cautioned to carefully follow the instructions given in this technical note. The battery may be rechargeable or non-rechargeable. Suggested external batteries include the Tadiran™ TL lithium non-rechargeable battery series (AA, D, etc.).

G-Link®-LXRS® Wireless Accelerometer Node	Part numbers: 6305-2000 (2g) and 6305-3000 (10g)
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery should only be recharged using the Phihong model PSA05R-090 9 VDC charger provided with the node. This battery should never be removed by the user and only be replaced by the factory.	***External battery:*** The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. The user is cautioned to carefully follow the instructions given in this technical note. The battery may be rechargeable or non-rechargeable. Suggested external batteries include the Tadiran™ TL lithium non-rechargeable battery series (AA, D, etc.).

DVRT-Link™-LXRS® Wireless Displacement Sensor Node	Part numbers: 6318-1000
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery should only be recharged using the Phihong model PSA05R-090 9 VDC charger provided with the node. This battery should never be removed by the user and only be replaced by the factory.	***External battery:*** The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. The user is cautioned to carefully follow the instructions given in this technical note. The battery may be rechargeable or non-rechargeable. Suggested external batteries include the Tadiran™ TL lithium non-rechargeable battery series (AA, D, etc.).

SG-Link®-OEM-LS Wireless OEM Analog Input Sensor Node – Low Power	Part number: 6308-1000
External battery: The node is shipped with a Panasonic model 6LR61XWA 9.0 volt alkaline non-rechargeable battery. This battery should be connected to the node using the shielded battery clip that is provided. The user should carefully observe the battery polarity and install the battery clip as indicated in the Quick Start Guide. The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. If a battery is used, the battery may be rechargeable or non-rechargeable. Suggested external batteries include the Panasonic model 6LR61XWA mentioned above or other industrial grade alkaline or lithium batteries.	

SG-Link®-OEM- LXRS® Wireless OEM Analog Input Sensor Node – Extended Rng	Part number: 6308-4000
External battery: The node is shipped with a Panasonic model 6LR61XWA 9.0 volt alkaline non-rechargeable battery. This battery should be connected to the node using the shielded battery clip that is provided. The user should carefully observe the battery polarity and install the battery clip as indicated in the Quick Start Guide. The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. If a battery is used, the battery may be rechargeable or non-rechargeable. Suggested external batteries include the Panasonic model 6LR61XWA mentioned above or other industrial grade alkaline or lithium batteries.	

TC-Link®-6CH-LXRS® Wireless 6 Channel Thermocouple Node	Part number: 6310-5000
Embedded internal battery: The node contains a 3.7 volt 650 mAh lithium rechargeable battery. This battery should only be recharged using the Phihong model PSA05R-090 9 VDC charger provided with the node. This battery should never be removed by the user and only be replaced by the factory.	
Replaceable Internal battery: The node may be powered internally by a user supplied Tadiran™ model TL-5903 3.6 volt 2.4 Ah lithium non-rechargeable battery. The user is cautioned to carefully follow the instructions given in this technical note. Other batteries should be confirmed with LORD MicroStrain® support engineers prior to use.	
External battery: The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. The user is cautioned to carefully follow the instructions given in this technical note. The battery may be rechargeable or non-rechargeable. Suggested external batteries include the Tadiran™ TL lithium non-rechargeable battery series (AA, D, etc.).	

TC-Link®-1CH-LXRS® Wireless 1 Channel Thermocouple Node	Part number: 6310-4000
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery should only be recharged using the Phihong model PSA05R-090 9 VDC charger provided with the node. This battery should never be removed by the user and only be replaced by the factory.	***External battery:*** The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. The user is cautioned to carefully follow the instructions given in this technical note. The battery may be rechargeable or non-rechargeable. Suggested external batteries include the Tadiran™ TL lithium non-rechargeable battery series (AA, D, etc.).

TC-Link®-OEM Wireless OEM Thermocouple Node	Part number: 6310-3000
Replaceable clock battery: The node is shipped with a Tadiran™ model TLH-2450 3.6 volt 0.55 Ah lithium non-rechargeable battery. This battery is shrink-wrapped in place on the node and provides power for the node's on-board clock. If the battery is replaced, the user should exercise care in observing battery polarity. The battery must be replaced with the Tadiran™ model TLH-2450.	
External battery: The node is shipped with a Panasonic model 6LR61XWA 9.0 volt alkaline non-rechargeable battery. This battery should be connected to the node using the shielded battery clip that is provided. The user should carefully observe the battery polarity and install the battery clip as indicated in the Quick Start Guide. The node may be powered externally by a user supplied battery (or other power source) that maintains a voltage range of +3.2 to +9.0 VDC. If a battery is used, the battery may be rechargeable or non-rechargeable. Suggested external batteries include the Panasonic model 6LR61XWA mentioned above or other industrial grade alkaline or lithium batteries.	

EH-Link® Wireless Energy Harvesting Sensor Node Starter Kit	Part number: 6320-0041
Configuration battery: While the EH-Link® will operate solely from energy harvesting sources, the node is shipped with a Panasonic model 6LR61XWA 9.0 volt alkaline non-rechargeable battery to operate the node in configuration mode. This battery should be connected to the node using the shielded battery clip that is provided. The user should carefully observe the battery polarity and install the battery clip as indicated in the Quick Start Guide. The recommended replacement battery is the Panasonic model 6LR61XWA or equivalent 9.0 volt alkaline battery. Other replacement batteries should be confirmed with LORD MicroStrain® support engineers prior to use.	

ENV-Link®-Mini-LXRS® Wireless Environmental Sensor Node	Part number: 6322-0000
Replaceable internal batteries: The node is shipped with two Tadiran™ model TL-5903 3.6 volt 2.4 Ah lithium non-rechargeable batteries. The user should carefully observe the battery polarity and install the batteries as indicated in the Quick Start Guide. The recommended replacement batteries are the Tadiran™ model TL-5903 mentioned above. Alternate replacement batteries are the Panasonic model LR6XWA 1.5 volt alkaline non-rechargeable batteries or any other batteries with a AA form factor and a voltage range of 0.9 to 6.0 VDC.	

G-Link®-LXRS® in IP66 Enclosure Battery holder for 1 D-Cell	Part number: 6306-0200
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery has been deselected as the node's power source; see this technical note for details. The node is now powered by the battery in the IP enclosure.	***IP66 enclosure battery:*** The node is powered externally by a Tadiran™ model TL-5930 3.6 volt 19 Ah lithium non-rechargeable battery. This battery is contained in a battery holder in the enclosure and the battery holder leads terminate in a jack which is connected to the node power connector. The user should carefully observe the battery polarity when installing replacement batteries. The recommended replacement batteries are the Tadiran™ model TL-5930 mentioned above. Other replacement batteries should be confirmed with LORD MicroStrain® support engineers prior to use.

G-Link®-LXRS® in IP65 Enclosure Battery holder for 3 D-Cells	Part number: 6306-0300
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery has been deselected as the node's power source; see this technical note for details. The node is now powered by the battery in the IP enclosure.	***IP65 enclosure battery:*** The node is powered externally by three Tadiran™ model TL-5930 3.6 volt 19 Ah lithium non-rechargeable batteries. These batteries are contained in a battery holder in the enclosure and the battery holder leads terminate in a jack which is connected to the node power connector. The user should carefully observe the battery polarity when installing replacement batteries. The recommended replacement batteries are the Tadiran™ model TL-5930 mentioned above. Other replacement batteries should be confirmed with LORD MicroStrain® support engineers prior to use.

SG-Link®-LXRS® in IP66 Enclosure Battery holder for 1 D-Cell	Part number: 6309-4000
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery has been deselected as the node's power source; see this technical note for details. The node is now powered by the battery in the IP enclosure.	***IP66 enclosure battery:*** The node is powered externally by a Tadiran™ model TL-5930 3.6 volt 19 Ah lithium non-rechargeable battery. This battery is contained in a battery holder in the enclosure and the battery holder leads terminate in a jack which is connected to the node power connector. The user should carefully observe the battery polarity when installing replacement batteries. The recommended replacement batteries are the Tadiran™ model TL-5930 mentioned above. Other replacement batteries should be confirmed with LORD MicroStrain® support engineers prior to use.

SG-Link®-LXRS® in IP65 Enclosure Battery holder for 3 D-Cells	Part number: 6309-5000
Embedded internal battery: The node contains a 3.7 volt 250 mAh lithium rechargeable battery. This battery has been deselected as the node's power source; see this technical note for details. The node is now powered by the battery in the IP enclosure.	***IP65 enclosure battery:*** The node is powered externally by three Tadiran™ model TL-5930 3.6 volt 19 Ah lithium non-rechargeable batteries. These batteries are contained in a battery holder in the enclosure and the battery holder leads terminate in a jack which is connected to the node power connector. The user should carefully observe the battery polarity when installing replacement batteries. The recommended replacement batteries are the Tadiran™ model TL-5930 mentioned above. Other replacement batteries should be confirmed with LORD MicroStrain® support engineers prior to use.

V-Link®-LXRS® in IP66 Enclosure Battery holder for 2 D-Cells	Part number: 6313-3100
Embedded internal battery: The node contains a 3.7 volt 650 mAh lithium rechargeable battery. This battery has been deselected as the node's power source; see this technical note for details. The node is now powered by the battery in the IP enclosure.	***IP66 enclosure battery:*** The node is powered externally by two Tadiran™ model TL-5930 3.6 volt 19 Ah lithium non-rechargeable batteries. These batteries are contained in a battery holder in the enclosure and the battery holder leads terminate in a jack which is connected to the node power connector. The user should carefully observe the battery polarity when installing replacement batteries. The recommended replacement batteries are the Tadiran™ model TL-5930 mentioned above. Other replacement batteries should be confirmed with LORD MicroStrain® support engineers prior to use.

TC-Link®-6CH-LXRS® in IP66 Enclosure Battery holder for 2 D-Cells	Part number: 3023-0010
Embedded internal battery: The node contains a 3.7 volt 650 mAh lithium rechargeable battery. This battery has been deselected as the node's power source; see this technical note for details. The node is now powered by the battery in the IP enclosure.	***IP66 enclosure battery:*** The node is powered externally by two Tadiran™ model TL-5930 3.6 volt 19 Ah lithium non-rechargeable batteries. These batteries are contained in a battery holder in the enclosure and the battery holder leads terminate in a jack which is connected to the node power connector. The user should carefully observe the battery polarity when installing replacement batteries. The recommended replacement batteries are the Tadiran™ model TL-5930 mentioned above. Other replacement batteries should be confirmed with LORD MicroStrain® support engineers prior to use.

Support

LORD MicroStrain® support engineers are always available to expand on this subject and support you in any way we can.

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