PRODUCT MANUAL

Lynx™ Proximity Switch Interface

L-PX

Training and Technology for Injection Molding

PRINT DATE 01.27.2023
REVISION NO. 0

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INTRODUCTION

Read, understand, and comply with all following instructions. This guide must be kept available for reference at all times.

DISCLAIMER

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ALERTS

The following three alert types are used as needed to further clarify or highlight information presented in the manual:

DEFINITION *A definition or clarification of a term or terms used in the text.*

NOTES *A note provides additional information about a discussion topic.*

CAUTION *A caution is used to make the operator aware of conditions that can cause damage to equipment and/or injury to personnel.*

NOTES

PRODUCT DESCRIPTION

The Lynx™ Proximity Switch Interface L-PX is an interface, bracket (part number MA-LPXP-BKT), cable, and proximity switch (12 mm normally-open, load-positive-connected/negative-switched (NPN) sensor with LED) set which, when connected to the eDART® or CoPilot® System, provides the machine sequence mold-clamped signal from an injection molding machine.

APPLICATIONS

The machine sequence signal mold-clamped is required by the eDART or CoPilot system in order for certain process values to be calculated; the L-PX can be used to acquire the mold-clamped signal when one cannot be obtained using the RJG Lynx Shielded Sequence Module ID7-M-SEQ, or an ID7-M-SEQ is not used.

The mold-clamped signal is required for the eDART and CoPilot systems to compute cycle time, and is also used by the systems to zero (reset) sensors.

OPERATION

The proximity switch is mounted in one bracket on the stationary half of the mold; the target bracket is placed on the moving half of the mold so that when the mold is closed, the proximity sensor is within 0.1” (25,4 mm) of the target bracket. The switch detects the change in proximity of the target bracket, providing the signal to the L-PX interface, which then supplies the proximity (mold is closed/mold is open) signal to the eDART or CoPilot system for use in process monitoring and control.

NOTES

INSTALLATION

The proximity switch and brackets are positioned on the mold using the provided magnets. Once an appropriate installation is templated, the magnets are removed and the brackets are permanently installed. The L-PX is permanently installed on either the machine or mold. The proximity switch and interface are then connected to each other and the eDART or CoPilot system by Lynx cables.

STANDARD INSTALLATION

CAUTION *Before beginning L-PX Lynx proximity switch interface installation, disconnect, lock out, and tag out any and all power to the molding machine. Failure to comply will result in personal injury or death and damage or destruction of equipment.*

NOTES *The injection molding machine must be in Manual mode, with the mold closed to perform installation.*

1. Install brackets, proximity switch, and proximity switch interface on mold.

Use the included magnets to position the proximity sensor/bracket and interface on the non-moving half.

Use the included magnets to position the target bracket on the moving half; adjust the target bracket as close as possible to the proximity switch (less than 0.1” (25,4 mm) distance); confirm that the LED is illuminated.

Once suitable mounting locations are confirmed, remove the included magnets and permanently install the proximity sensor, brackets, and proximity switch interface.

2. Install Lynx Cable on the proximity switch and interface.

Install Lynx cable on proximity switch.

CAUTION *Install the proximity switch so that the switch and/or cable does not become damaged by the ejector plate /mold during operation.*

Install Lynx cable on proximity switch interface.

3. Install Lynx Cable on the interface and eDART/CoPilot system or junction.

Connect Lynx cable to proximity switch interface.

Install Lynx cable on eDART or CoPilot system or junction to eDART or CoPilot system; if installed on junction, ensure junction is connected to eDART or CoPilot system with additional Lynx CE-LX5 cable.

NOTES

MAINTENANCE

The L-PX requires little to no maintenance.

CLEANING

Clean cable connections when a mold is pulled for preventative maintenance. Sensors, connectors, and cables must be installed in areas free from oil, dirt, grime, and grease.

RJG, Inc. recommends the following cleaners:

- MicroCare MCC-CCC Contact Cleaner C
- MicroCare MCC-SPR SuprClean™
- Miller-Stephenson MS-730L Contact Re-Nu®

TESTING & CALIBRATION

TESTING

The mold clamped machine sequence signal is ON when mold is clamped to full-tonnage,and OFF when mold begins to open. DO NOT assign a mold opening or mold closed signal as a mold clamped signal.

Test the L-PX-supplied mold clamped signal after assignment using the Sequence Lights/Sequence Inputs tool in eDART version 9.xx software, or utilize the integrated LED on the proximity switch to verify that the light goes on/off for the mold clamped machine sequence.

The Sequence Lights tool in eDART version 9.xx software displays what stage of the process is taking place showing the on/off status of machine sequences. If a “light” is on, then the signal is on; if a “light is off, the signal is off. The Sequence Lights tool displays machine sequences that are not necessarily wired to the sequence module.

CALIBRATION

The L-PX requires no calibration.

WARRANTY

RJG, INC. STANDARD ONE-YEAR WARRANTY

RJG, Inc. is confident in the quality and robustness of the L-PX, and so are offering a one-year warranty. RJG’s proximity switch interface is guaranteed against defects in material and workmanship for one year from the original date of purchase. The warranty is void if it is determined that the product was subjected to abuse or neglect beyond the normal wear and tear of field use, or in the event the product has been opened by the customer.

PRODUCT DISCLAIMER

RJG, Inc. is not responsible for the improper installation of this equipment, or any other equipment RJG manufactures.

Proper RJG equipment installation does not interfere with original equipment safety features of the machine. Safety mechanisms on all machines should never be removed.

NOTES

TROUBLESHOOTING

COMMON ERRORS

SIGNAL ERRORS

1. No signal is detected by the eDART or CoPilot system

If no signal is detected by the eDART or CoPilot system, ensure the following:

- Proximity switch LED illuminates when the switch/target bracket are in closest positions.
- Lynx cables are secured to each connection between the proximity switch and the eDART or CoPilot system
- The LP-X has the correct Type and Location assigned in the eDART or CoPilot system software.

ⓘ NOTES

The mold clamped signal provided by the L-PX will NOT display on the eDART version 10.xx software Machine Setup/Inputs. Use the integrated LED on the proximity switch to determine if the mold clamped signal is correct.

2. Signal is intermittent

If the signal is detected by the eDART or CoPilot system intermittently, ensure the following:

- Proximity switch LED illuminates when the switch/target bracket are in closest positions.
- Lynx cables are secured to each connection between the proximity switch and the eDART or CoPilot system.

CUSTOMER SUPPORT

Contact RJG's Customer Support team by phone or email.

RJG, Inc. Customer Support

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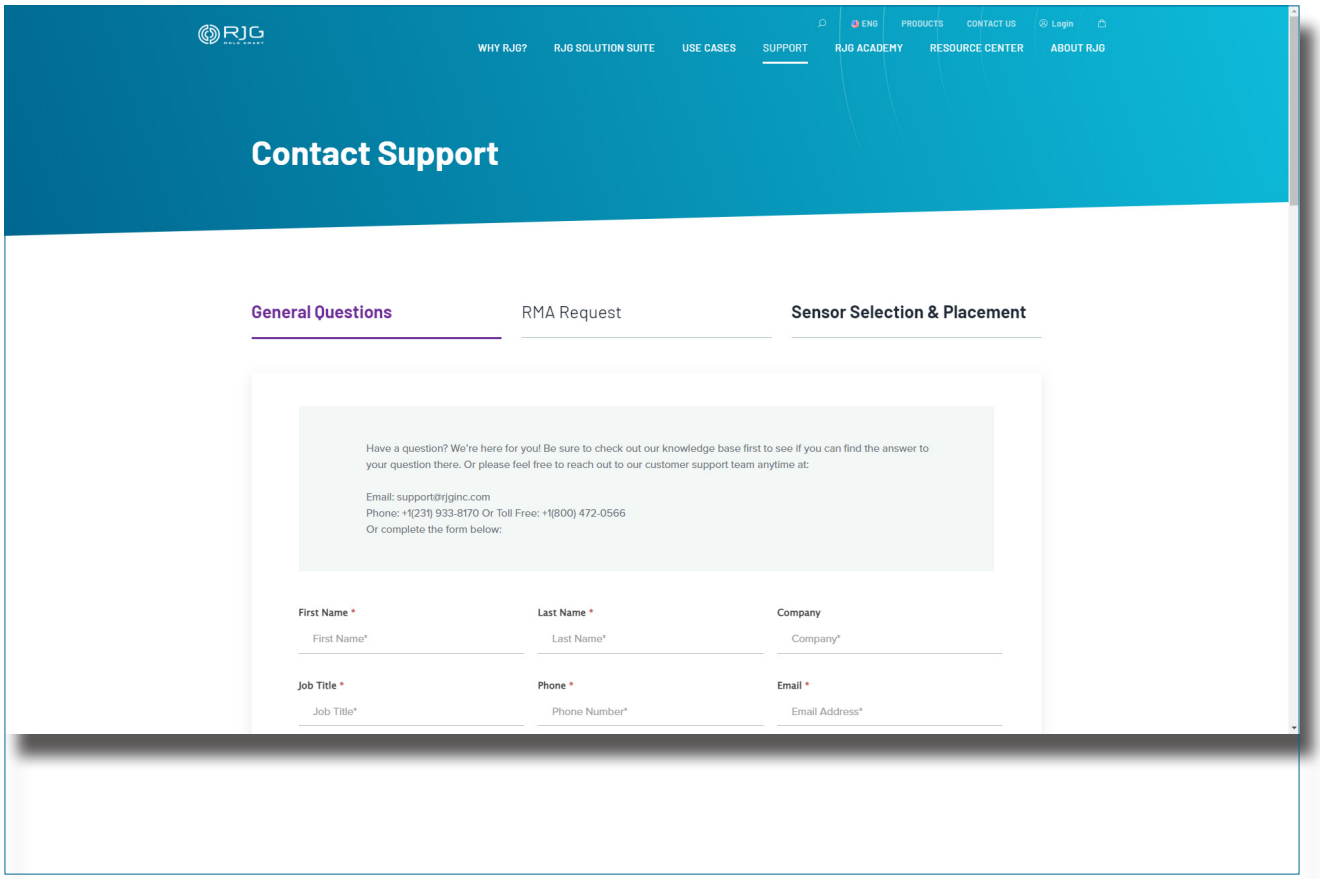


RELATED PRODUCTS

The shielded sequence module is compatible with other RJG, Inc. products for use with the eDART and CoPilot process control and monitoring systems.

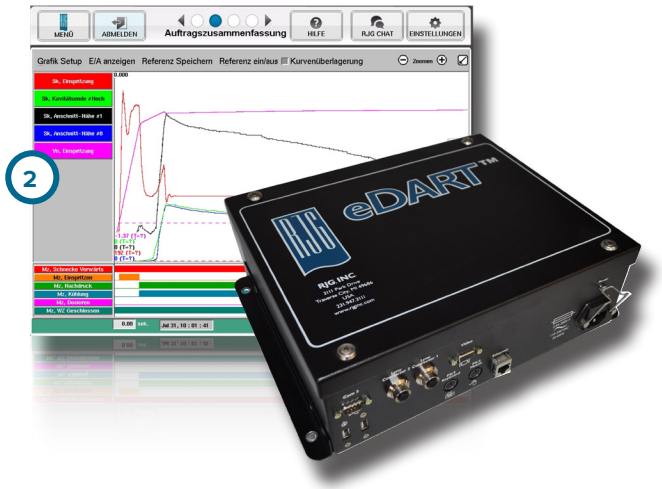
COMPATIBLE PRODUCTS

LYNX CABLES CE-LX5

The Lynx sensor cable (1 at right) is a polypropylene-coated cable suited for the heat and stress found in injection molding environments. The cable is available in lengths 11.8–472.4” (0,3–12 m), and can be ordered with straight or 90° fittings. One CE-LX5 is required to interface the ID7-M-SEQ with the eDART or CoPilot systems.

eDART PROCESS CONTROLLER

The eDART process controller (2 at right) is the base hardware unit for the eDART system. The eDART system is the most powerful process control system in the industry, allowing molders to stabilize and control injection molding processes and contain bad parts, ensuring high quality and cost-reduction.



COPILOT SYSTEM APPLICATION PROCESSOR AP4.0

The CoPilot system application processor AP4.0 (3 at right) is the base hardware unit for the CoPilot system. The CoPilot system is the latest in injection molding smart technology. The simple, user-friendly software ensures customers receive only the highest quality parts while minimizing waste in the process.

SIMILAR PRODUCTS

The following product, similar to the L-PX, is compatible for use with the eDART or CoPilot process control and monitoring systems.

LYNX SHIELDED SEQUENCE MODULE ID7-M-SEQ

The Lynx shielded sequence module ID7-M-SEQ (1 at right) is a DIN-rail-mounted module that is wired to the molding machine in order to collect 24 V DC timing signals for use with the eDART system, including injection forward, screw run, mold closed, first stage, and mold opening.

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