Getting Started

This section is designed to guide you through the setup process of the *eDART*® System, including installation, mounting the system, connecting the *eDART*® System to a computer, to a network, and attaching Lynx™ sensors.

In This Chapter:

3/09/2018
Rev. E.6.1

Safety Symbols

These operating instructions must be read, understood and implemented in all respects by all personnel who are responsible for the *eDART*® System. These operating instructions should be kept available so all personnel can quickly refer to them at any given time.

Please refer to this table if you have any questions regarding the importance or meaning of the safety symbols used in this manual or on the *eDART*® System.	
	This symbol is used as an operational safety symbol for all work that involves a risk of life and limb for personnel. This symbol also identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss. Where this symbol appears throughout this manual, please exercise particular care and caution while carrying out tasks.
CAUTION	This precautionary warning is shown at locations of particular sensitivity, in order to avoid any damage and/or destruction of the device or system and/or other parts of the installation.
NOTE	This sign draws attention to a particular technical feature.
	This symbol is used as an operational safety symbol for all work that involves risk of electrocution. For instance, it can represent areas of high voltage where power should be disconnected in advance to any servicing.

Table 1: Explanation of Symbols

Notice:

Protection provided by the equipment may be impaired if the equipment is used with accessories not provided or recommended by the manufacturer, or is used in a manner not specified by the manufacturer.

The *eDART*® contains no operator serviceable parts.

eDART® System Specifications

The specifications below refer to the *eDART*® System and its related components. For additional specifications for the *eDART*® System please refer to the Appendix.

***eDART*® System Specifications**		
Electrical		
Voltage	110-240 Vac	
Frequency	50 Hz or 60 Hz	
Maximum Current	2.5 A maximum	
Installation/overvoltage category	II	
Environmental		
eDART® System is intended for indoor use only		
Degree of Protection Against Ingress of Water	IPXO	
Temperature Operating Range	5 °C - 50 °C (40 °F - 122 °F)	
Pollution Degree	2	
Humidity	90% RH non-condensing	
Altitude Limit	3000 m	
Connections		
Power	IEC Computer Power Cable	
Keyboard	Standard PS/2 - Non-programmable	Maximum total current available for mouse/ keyboard combination: 400 mA
Mouse	Standard PS/2	
Display	DB-15 SVGA 1024-768	
Communication Ports	DB-9	
Ethernet	RJ45 Shielded	
Lynx Sensors	4 pin m12 with Shield	
Temperature Range of Transportation	(-25 °C - +55 °C) or 24 hours @ +70 °C	

Table 2: *eDART*® System Specifications

Installation Instructions

Before installing any component of the *eDART*® System, please read and understand each step. If you have questions concerning the installation, please call RJG customer support 1-800-472-0566.

Installation Checklist:

Before installing any component of the *eDART*® System, please read and understand each step. If you have questions concerning the installation, please call RJG customer support 1-800-472-0566.

Always disconnect and lock out the main power sources before making electrical connections. Electrical connections should be made only by qualified personnel.

Use the checklist below to ensure successful *eDART*® System installation. See the Appendix for a more detailed checklist.

Installation Checklist

- ✓ Mount the *eDART*® System according to instructions.
- ✓ Connect the power.
- ✓ Connect the keyboard, mouse, and display.
- ✓ Wire the *eDART*® System to a computer or network using the Ethernet connection.
- ✓ Attach the Lynx™ sensors.

Mounting the *eDART*® System

Mount the *eDART*® to a surface with no vibration and away from sources of humidity, contamination or corrosion, such as water or hydraulic lines.

Read the safety warnings before mounting the *eDART*® System.

Position the *eDART*® so the connectors are facing down.

Mount away from sources of static such as the hopper, dryer or material feed lines. Do not mount the *eDART*® in an enclosed location. Ensure the mounting clearances are as follows: top, sides, front - 150 mm [5.9”]; bottom - 300 mm [11.8”]. See below.

Mount using supplied mounting holes (⌀ 0.281” [7,114 mm]). Secure bolts tightly. Do not drill holes into the *eDART*® enclosure.

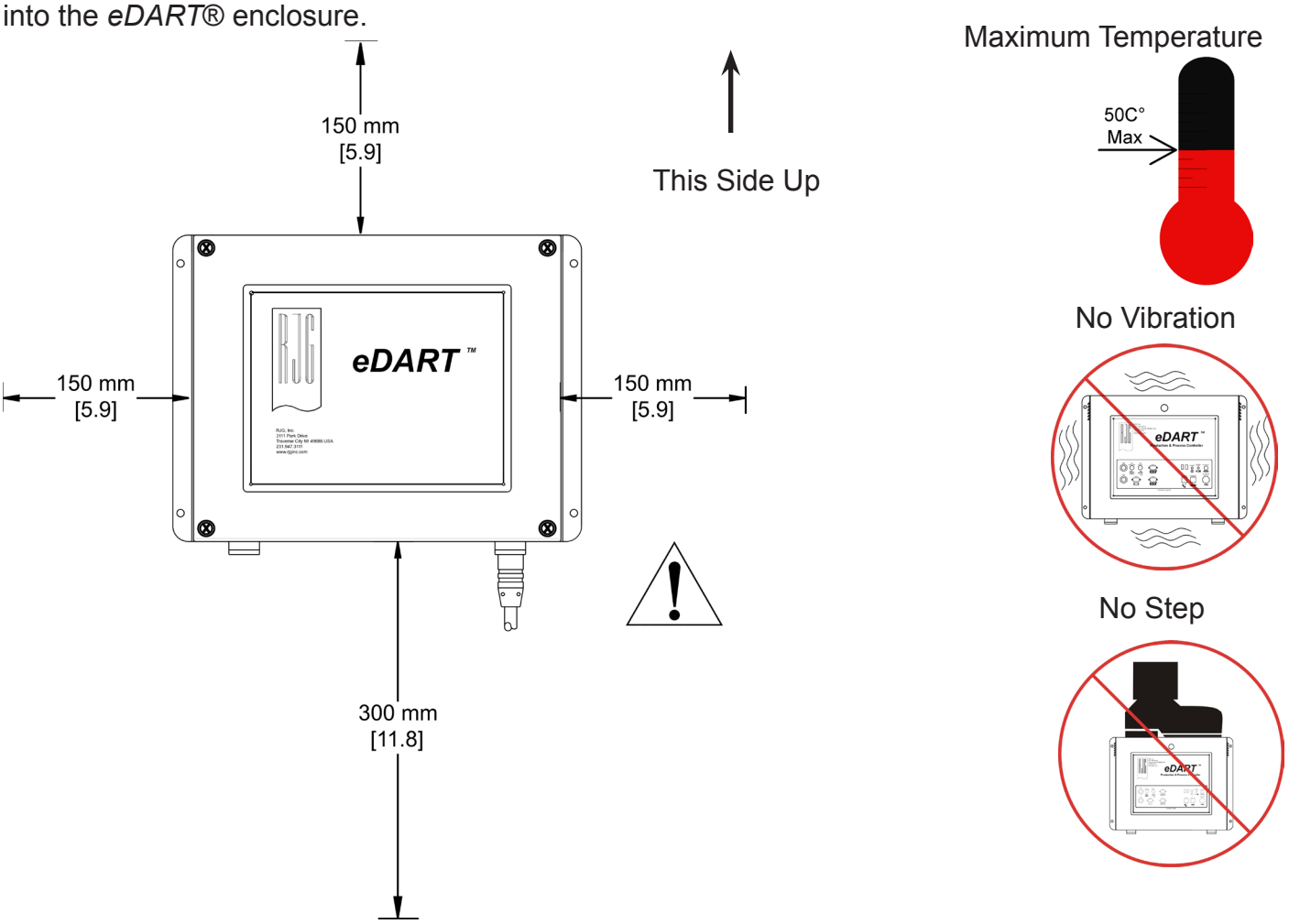


Figure 1: eDART® mounting clearances

Notice:

Do not position the equipment in a location where it is difficult to disconnect the power cord from the *eDART*®.

eDART® Mounting Hole Dimensions

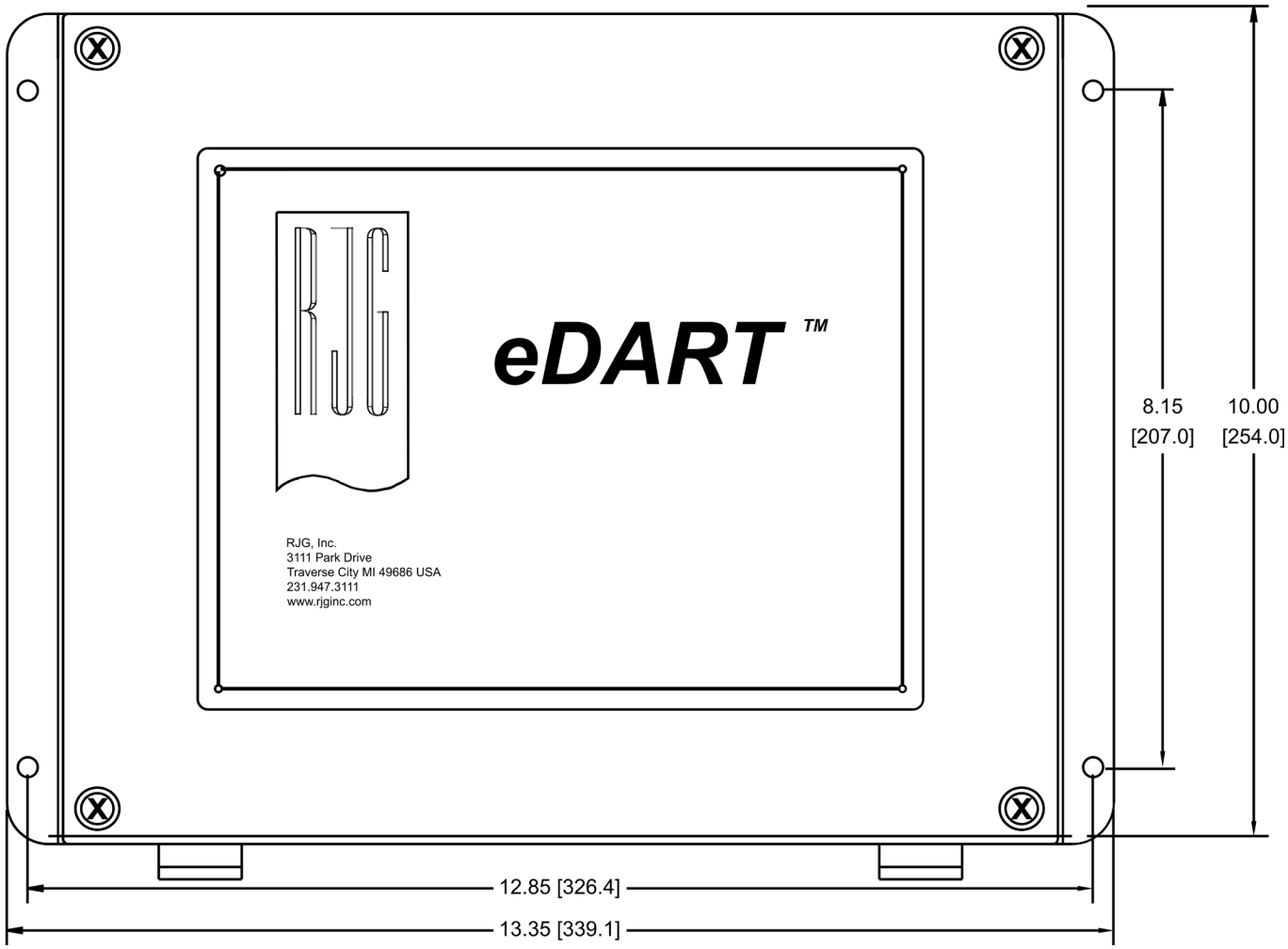


Figure 2: eDART® Mounting hole pattern

eDART® Connections Diagram

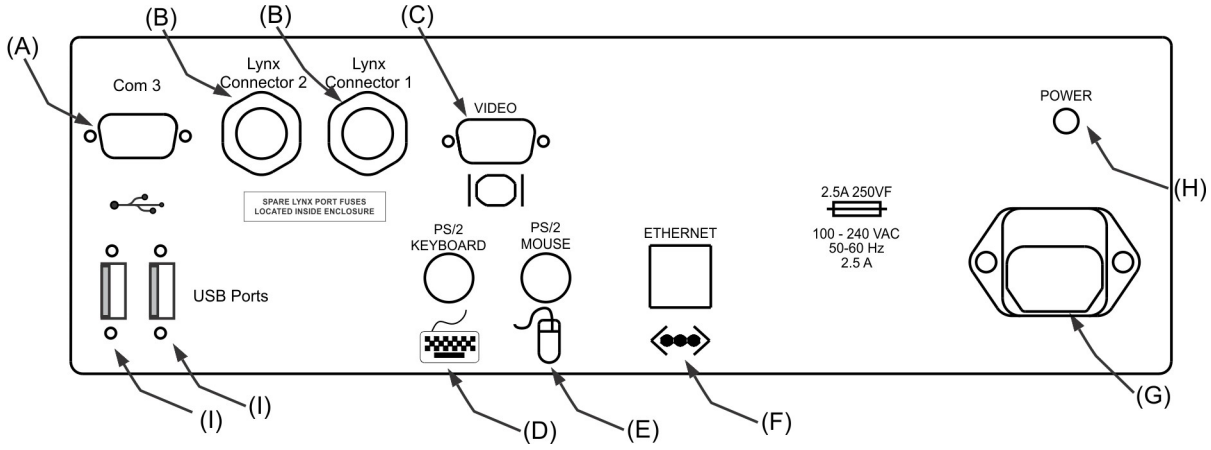


Figure 3: eDART® **connections**

A. Com 3 - This communications port is used for special applications such as modems or touch screens. Contact RJG for more information.

B. Lynx Sensor Connectors - Lynx Din Rail mount sensors, machine mounted sensors and mold pressure sensors interface with the *eDART*® System through these connections.

C. Video Connection - Use this connection to attach a video monitor (SVGA 1024 x 768 minimum resolution).

D. PS/2 Keyboard Connection - A standard PS/2 mouse can be attached to the *eDART*® through this connection

E. PS/2 Mouse Connection - A standard PS/2 mouse can be attached to the *eDART*® through this connection.

F. Ethernet Connection - This connection allows the *eDART*® to be networked with one or more computers.

G. Power Connection - This is the main power input for the *eDART*®. Review installation instructions carefully before installation.

H. Power Indicator Green LED - This LED indicates power is being supplied to the *eDART*® motherboard. This is on as long as power is supplied to the *eDART*®, or during the period of time it takes the *eDART*® to perform a controlled shutdown.

I. USB Port

Connecting the *eDART*® System

Step 1:

Wire power to the *eDART*® System, Carefully read the instructions and safety warnings below before wiring AC power to the *eDART*® System. Power is attached to the *eDART*® System using a supplied, standard computer power cable. Table 3 outlines the power requirements. The *eDART*® System should be wired so the power is interrupted by the molding machine control panel safety disconnects. Care must be taken to ensure that the power is properly wired and tested. Have a licensed electrician check all wiring before installation.

The ground connection of the power receptacle must be made to an adequate earth ground to eliminate the possibility of radio frequency noise and interference, and to insure a safe operation. Have a licensed electrician check all wiring to insure that all grounds are wired correctly.

eDART® System Power Requirements	
Voltage	110-240 Vac
Frequency	50 Hz or 60 Hz
Maximum Current	2.5 A maximum

Table 3: *eDART*® power requirements

Always disconnect and lock out the main power sources before making electrical connections. Electrical connections should be made only by qualified personnel.

Connecting the *eDART*® System

Step 2:

Connect the keyboard, mouse and display. Specific information is listed below. See Figure 4

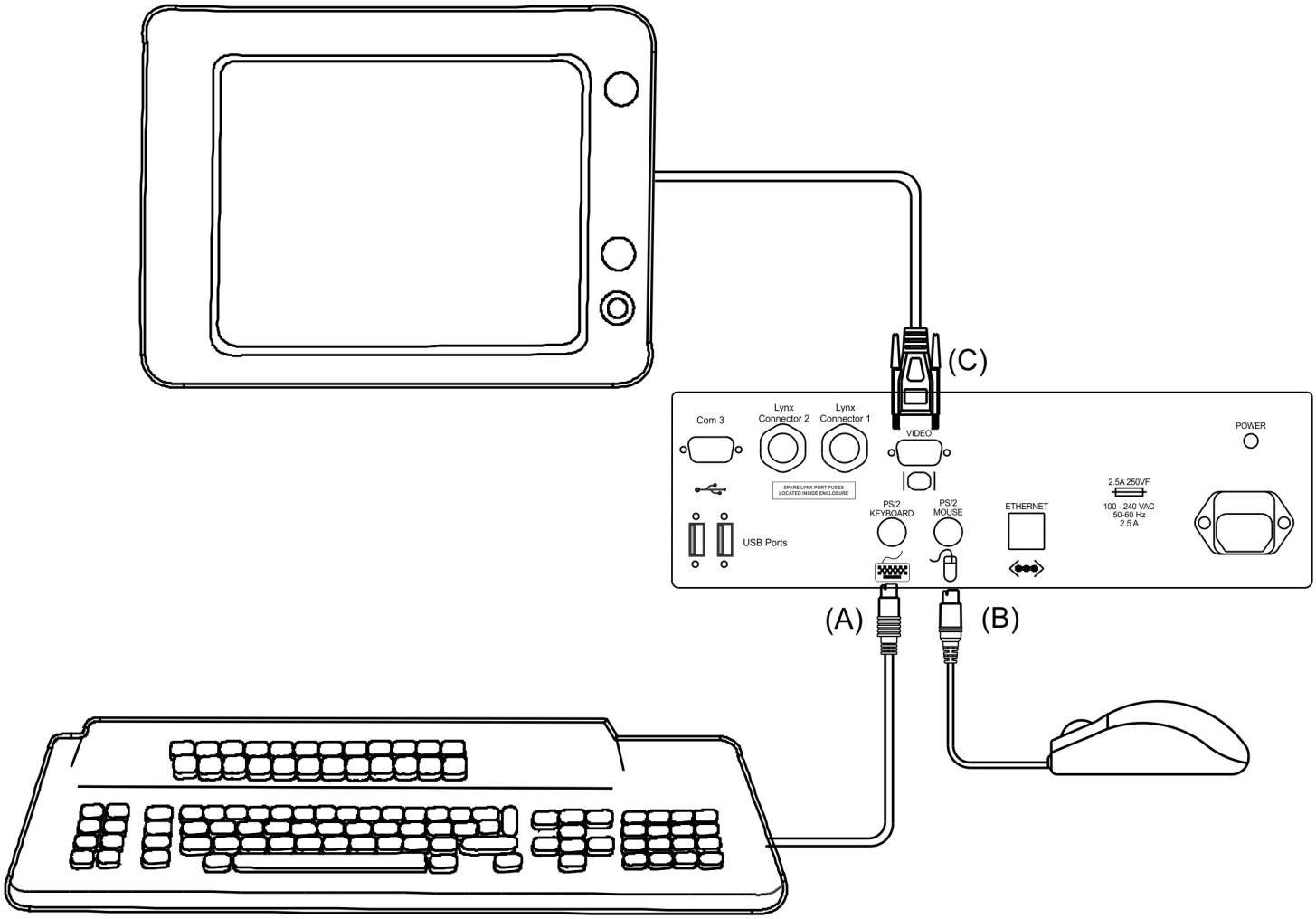


Figure 4: Connecting the *eDART*® System to a keyboard, mouse and monitor

A - PS/2 Keyboard Connection - A standard PS/2 keyboard can be attached to the *eDART*® through this connection. Non programmable.

B - PS/2 Mouse Connection - A standard PS/2 mouse can be attached to the *eDART*® through this connection.

C - Video Connection - Use this connection to attach a video monitor (SVGA 1024 x 768 minimum resolution).

Step 3:

Always power down before working on any equipment.

NOTE: Always use shielded Ethernet cable. For example, Lumberg #RJ45S - RJ45S-656

Network Wiring. Access the *eDART*® System remotely using the *eDART's* Ethernet connection and an additional stand-alone or networked computer containing RJG Insight software for Windows®. Refer to Figure 5 for wiring guide lines. For more information on making these connections and setting up Windows®, please refer to the Networking, Remote Access and Viewing the *eDART*® System section.

A - Windows Computer - A standard computer running the Windows operating system

B - *eDART*® Ethernet Connection - the *eDART*® Ethernet connection can be attached to either a computer with a cross-over cable or a network hub with a standard Ethernet connection.

C - Network Hub - attach a Windows computer using a network hub to an *eDART*® using a standard Ethernet cable.

D - Cross Over - attach a Windows computer directly to an *eDART*®using a Ethernet cross-over cable.

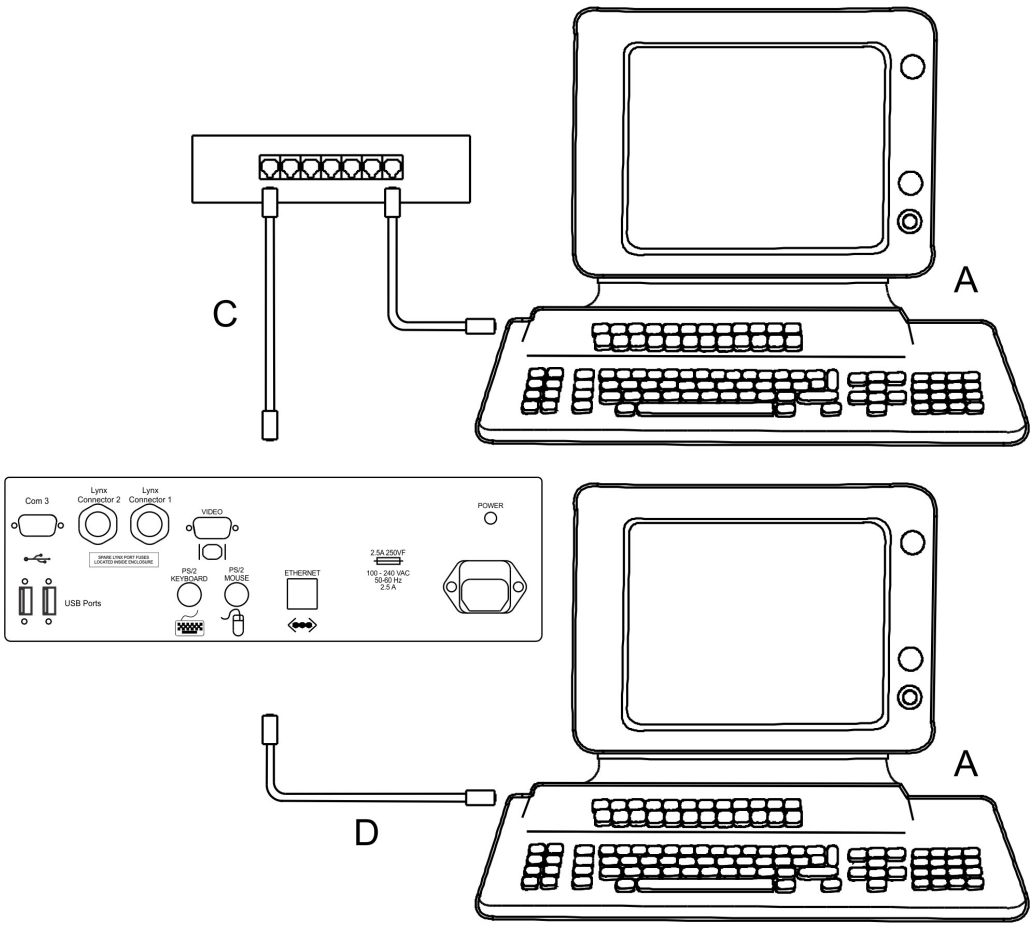
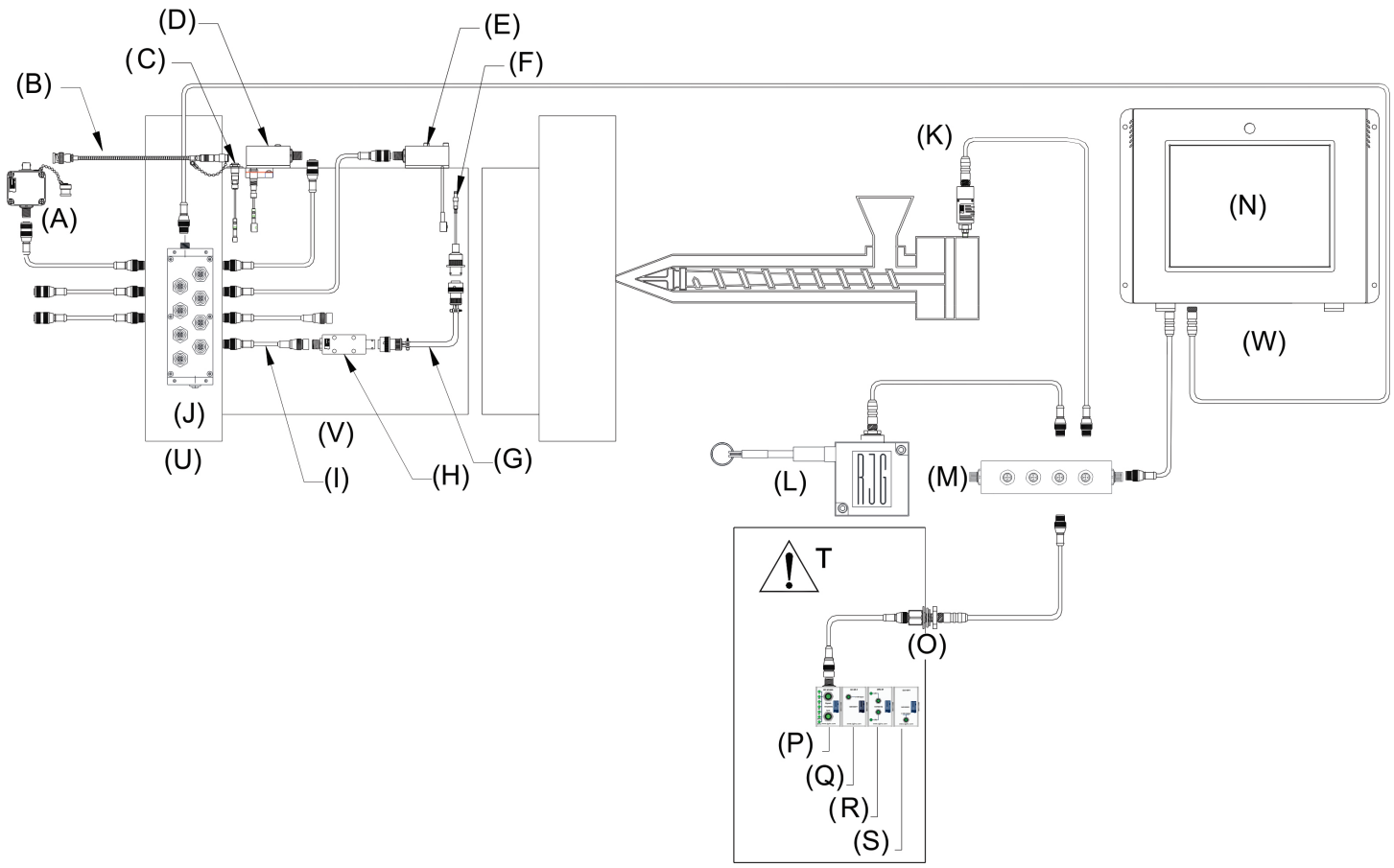


Figure 5: Accessing the *eDART*® System with Ethernet, wired to a stand-alone or networked computer containing RJG Insight software for Windows®

Attach the Lynx™ devices. A typical *eDART*® System may include many Lynx™ devices: See Figure 6 for an example. Please attach all devices before powering up the system.



Example of full *eDART*® System layout. Each individual system and parts may vary.

A	Piezo Adapter	**M**	JLX-5 Junction Box
B	Lynx Cable	**N**	*eDART*®
C	Piezo Sensor	**O**	JLX-1 Cable Feed Through
D	Lynx Piezo Sensor	**P**	Sequence Input Module - ID7
E	Lynx Sensor	**Q**	0-10 V/4-20 mA Input Module - IA1
F	Strain-Gage Sensor	**R**	Dual Relay Output Module - OR2
G	Bendix Cable	**S**	0-10 V Output Module - OA1
H	Strain-Gage Adapter	**T**	EMI Noise Free Machine Panel
I	Lynx Cable	**U**	Mold Platen
J	JLX-9 Junction Box	**V**	Injection Mold
K	Lynx Hydraulic Sensor	**W**	*eDART*® Connections
L	Lynx Stroke Encoder		

Appendix

This section provides detailed information about the Lynx™ network, technical specifications for the Lynx™ devices and their functions, and Lynx™ installation instructions.

In this chapter

8/11/2015
Rev E.6.4

Introduction

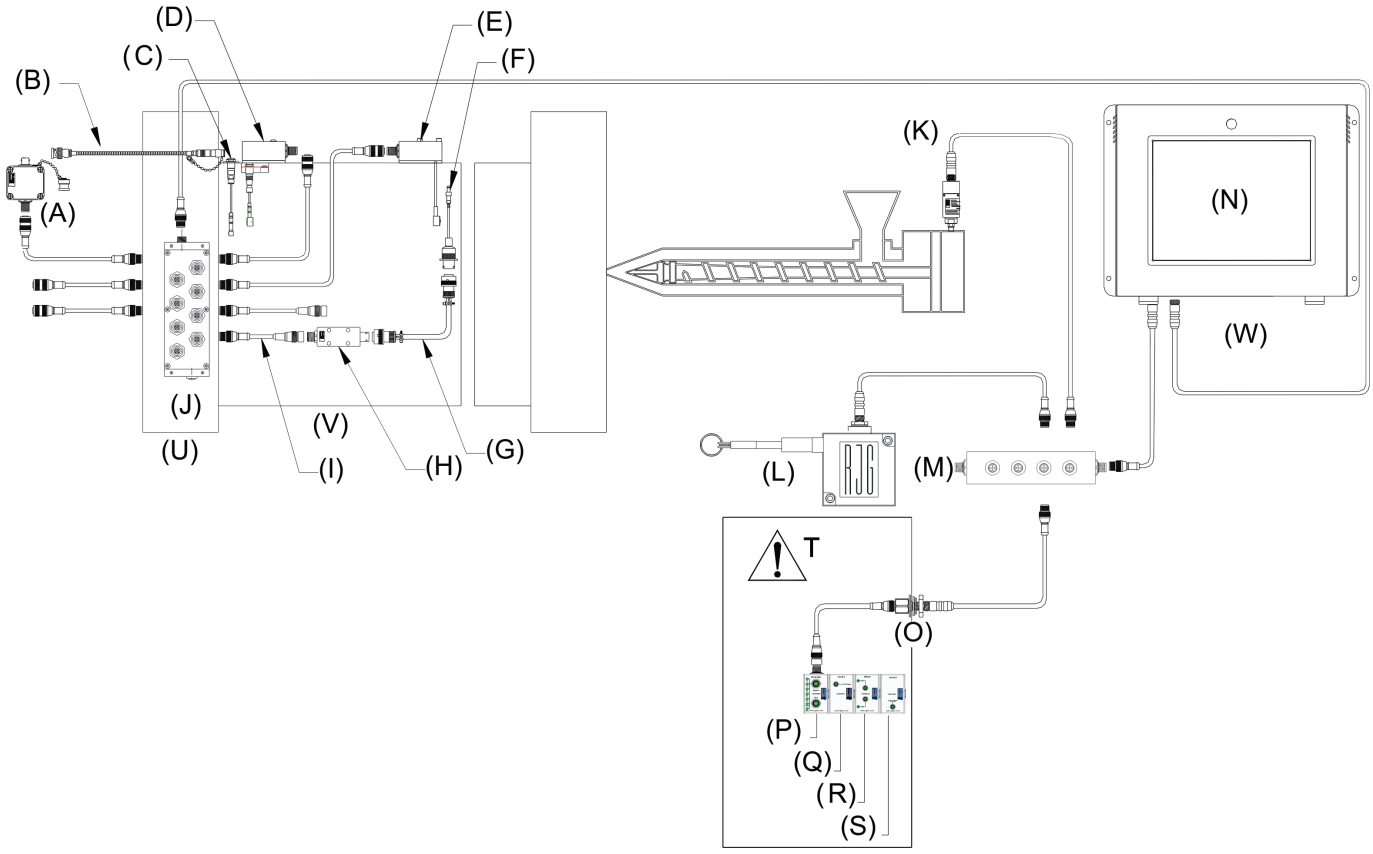
Lynx™ devices gather raw data about the machine sequence, pressures, position of injection unit and other parameters during in the molding process. Lynx™ devices are digital and contain electronics that make them “smart” and self-identifying. The following section provides specifications and installation instructions for these devices.

A typical *eDART*® System includes the following Lynx™ devices:

- Mold pressure sensors
- Machine mount devices (hydraulic, stroke, velocity, light tree)
- DIN Rail I/O modules

Attach devices to one or both Lynx™ ports on the *eDART*® System using Lynx™ cables. Please attach all devices before powering up the system. It is not necessary to connect all of the devices and connectors shown in Figure 1, only the ones you need to operate your particular *eDART*® System.

Typical full *eDART*® System and Lynx™ Network layout.



A	Piezo Adapter	**M**	JLX-5 Junction Box
B	Lynx Cable	**N**	*eDART*®
C	Piezo Sensor	**O**	JLX-1 Cable Feed Through
D	Lynx Piezo Sensor	**P**	Sequence Input Module
E	Lynx Sensor	**Q**	0-10 V/4-20 mA Input Module
F	Strain-Gage Sensor	**R**	0-10 V Output Module
G	Bendix Cable	**S**	Dual Relay Output Module
H	Strain-Gage Adapter	**T**	EMI Noise Free Machine Panel
I	Lynx Cable	**U**	Mold Platen
J	JLX-9 Junction Box	**V**	Injection Mold
K	Lynx Hydraulic Sensor	**W**	*eDART*® Connections
L	Lynx Stroke Encoder		

Table 1: Figure Labels for eDART® System

Wiring Machine Signals

In order to perform important computations necessary for successful injection molding processes, the *eDART*® must have accurate sequence signals from the machine controller. These signals indicate to the *eDART*® when important events occur during the machine cycle and they help synchronize signals from the hydraulic and mold pressure sensors to the actions of the machine for display in the software.

Table 5 details these signals in order of importance to the software. If none of these signals is available, please contact your RJG, Inc. representative for alternatives or more information.

Machine Signal	Wire to	Should go ON when	Should go OFF when	Purpose
Screw Run	SR	Screw motor starts	Screw motor stops	Stroke direction, zero and material variation information (required for control)
Injection Forward	IF	Injection starts	Hold time ends	Searches for peaks, hold pressure, etc. (required for control)
Mold Clamped	MC	Mold clamped to pressure	Mold cracks	Accurate cycle time and integration limit (resets piezoelectric adapters)
Mold Opening	MO	Mold begins to open	Mold stops opening	Pinched part detection (resets piezoelectric adapters
First Stage	1 ST	Start of injection (Velocity)	Switch to pressure (hold)	Creates internal injection forward, pack and in 2-Stage, “FILL”
Manual Mode	MAN	Machine is in manual mode (for setup)	Machine is in auto or semi-automatic mode	Prevents parts counts in manual mode.
Shuttle Position	SHTL	Should be on at start of cycle - position 2	Should be on at start of cycle - position 1	Detects mold position in 2-position shuttle molding
Mold Closing	Any	Mold begins to close	Mold touches or clamps up	Cycle time with mold opening (resets piezoelectric adapters)
Mold Open	Any	Mold reaches open	Mold starts to close	Cycle time and integration limit (resets piezoelectric adapters)
Second Stage	Any	Switch to pressure (hold)	End of hold (end injection)	Creates internal injection forward and pack

Table 5: Machine sequence timing details

Lynx Shielded Machine Interface Modules
ID7-M-SEQ, OR2-M, IA1-M-V and OA1-M-V

GENERAL DESCRIPTION

The ID7-M-SEQ, OR2-M, IA1-M-V and OA1-M-V modules contain all the inputs and outputs needed to interface molding machines to the RJG *eDART*® System. They feature shielded metal enclosures and cables. This design allows for ease of installation and troubleshooting. They also have increased immunity to interference in electrically noisy environments and feature DIN Rail mounting with easy to read status LEDs.

Technical Specifications	
All Modules	**Max. Temp. (Operating) 140 °F (60 °C)**
ID7-M-SEQ 7 Sequence Inputs	Maximum Input Voltage 36 VDC, Minimum Trigger-On Voltage 18 VDC
	Electrically isolated inputs
IA1-M-V 1 Analog Input	0 -10 VDC
	Accuracy ±1%
	Electrically isolated input
OR2-M 2 Relay Outputs	Contact Rating 1A 30 VDC
	Fused Dry Contacts
OA1-M-V 1 Analog Output	0 -10 VDC
	Accuracy ±1%
	Electrically isolated output

***Table 1**: Technical Specifications*

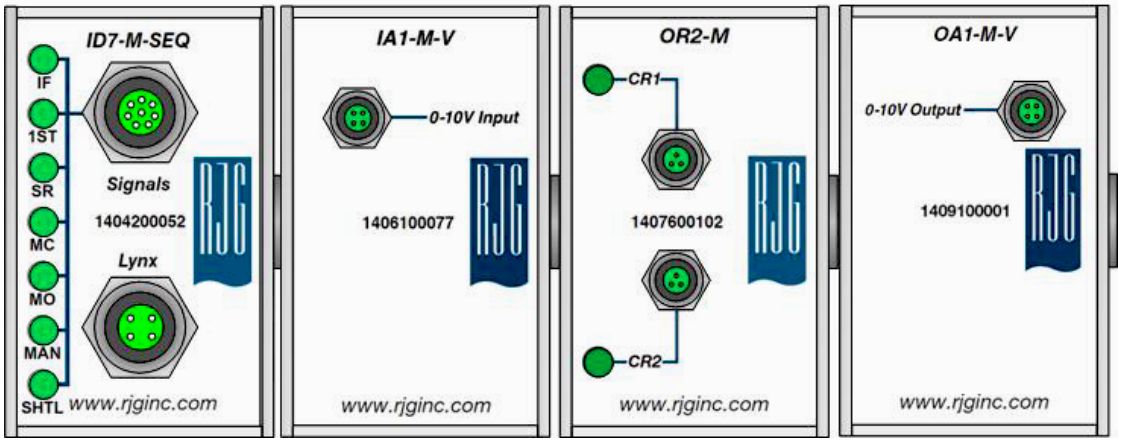


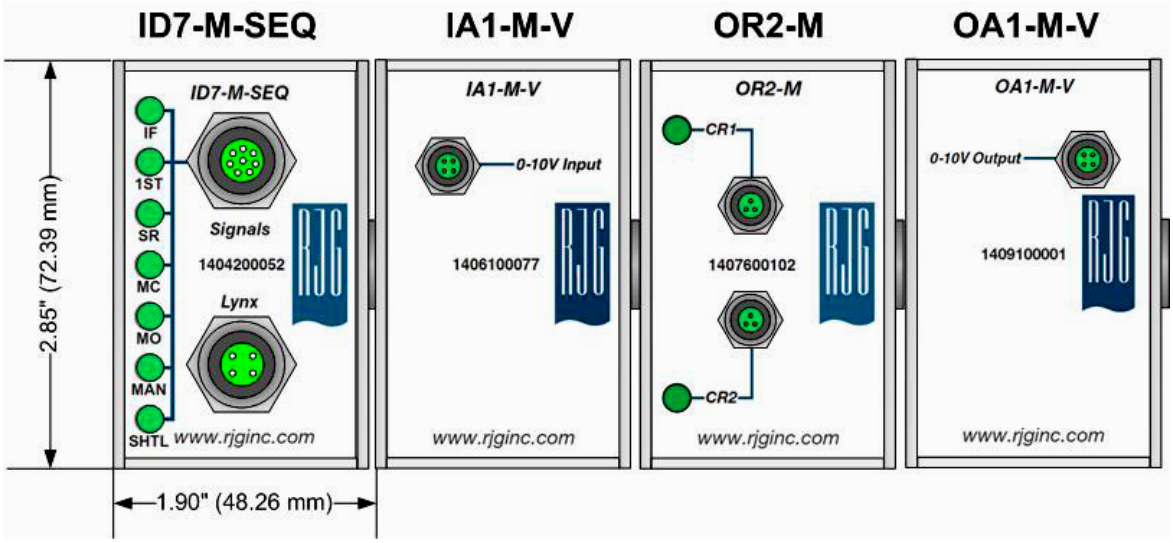
***Figure 1**: Lynx Machine Interface Modules*

NOTE: *Make sure that these modules, and any connecting cables, are out of the way of any sources of static such as feeder tubes and material hoppers.*

HARDWARE INSTALLATION

Step One: Mount the Modules

Mount the modules to a solid surface, such as the molding machine frame, using the supplied DIN rail. Refer to drawing below for clearances needed.



Recommended clearance height from face of modules is 6" (152.4 mm)

Step Two: Attach the machine sequence signals to the ID7-M-SEQ

Typically these signals can be obtained from a machine output card. The inputs on ID7-M-SEQ are completely isolated.

Input Type	Function	Color	
24 V on, 0 V off	INJ Forward	Blue	
24 V on, 0 V off	1st Stage	Pink	
24 V on, 0 V off	Screw Run	Red	
24 V on, 0 V off	Mold Clamped	Brown	
24 V on, 0 V off	Mold Opening	Yellow	
24 V on, 0 V off	Manual	White	
24 V on, 0 V off	Shuttle Position	Green	
DC Common	Input Common	Gray	
Maximum Input Voltage 36 V, Minimum Trigger on Voltage 18 V			

Step Three: If Available - Connect Injection Pressure Signal to the IA1-M-V

The IA1-M-V is an isolated analog input module. Typically this will be used to obtain an Injection Pressure signal from an electric molding machine. (On an electric machine it would be hard-wired directly to the machine).

Input Type	Function	Color	
0-10 VDC	Signal +	Blue	
0 VDC Common	Signal -	White	
No Connection	N/A	Brown	
No Connection	N/A	Black	

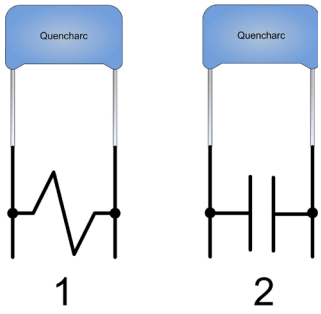
Step Four Part 1: For V to P Transfer, Inject Enable or Part Sorting

Attach the OR2-M to the machine for V to P transfer and inject enable. These signals can be supplied to a machine input card. Each comes with two sets of dry contacts. For Part Sorting, attach the OR2-M to the sorting equipment. Refer to the note below about the application of the supplied Quencharcs.

Relay	Signal	Color	
CR1	Normally Open	Brown	
CR1	Common	Black	
CR1	Normally Closed	Blue	
CR2	Normally Open	Brown	
CR2	Common	Black	
CR2	Normally Closed	Blue	
Contact Rating 1A 30 VDC			

Quencharcs Usage

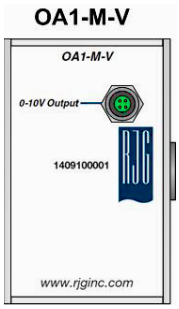
It is recommended that the included Quencharcs are used with the dry contacts. Quencharcs increase relay life and reduce emitted EMI. The preferred method is to attach across the load (see 1). However an alternative method is to place them across the contacts themselves by attaching to the cable pigtails (see 2).



Step Four Part 2: Optionally for V to P Transfer

Use the OA1-M-V when 0-10 V input is required. One analog output provided.

Output Type	Function	Color	
0-10 VDC	Signal +	Brown	
0 VDC Common	Signal -	Black	
No Connection	N/A	Blue	
No Connection	N/A	White	



Step Five: Attach modules to the *eDART®*

The ID7-M-SEQ has a Lynx connector for connection to the *eDART®* with a Lynx cable (CE-LX-XM).

For ordering information - see chart below.

Part Numbers	
Module	**Cable - 3 Meter Length**
ID7-M-SEQ	C-ID7-M-3M
IA1-M-V	C-IA1-M-3M
OR2-M	C-OR2-M-3M
OA1-M-V	C-OA1-M-3M

For further Information please contact RJG Customer Support at 231-947-3111 ext. 170 or visit our website at: https://www.rjginc.com/edart/hardware to obtain detailed manuals.

Lynx™ Piezo Sensor Adapter - PZ/LX1-S

The Piezo Adapter provides piezo cavity pressure sensor users with a convenient, simple interface to RJG's *eDART*® System. The device accepts inputs from any piezo sensor.

Based on the type of input, the Piezo Adapter scales the input signal from the sensor and sends a digital cavity pressure signal to the *eDART*® controller.

Technical Specifications	
Range	0-20000 pC
Resolution	0.4 pC / step
Drift Range	0.33 pC/second up to 60 °C (140 °F)
Accuracy	±1%
Linearity	±0.05%
Max Temp. (operating)	60 °C (140 °F)
Warm-up Time	5 minutes
Temperature stability after warm-up	0.05%
Time to Clear	0.1 seconds (max)
Mold ground to Piezo Adapter ground potential	±1 V to function ± 10 V max.

CAUTION
Always power down the Piezo Adapter by unhooking the Lynx cable before changing sensors.

NOTE
In order to properly zero, you should not see any cavity pressure within 1/10 of a second after the 'on -> off' or 'off -> on' change.

In order to properly zero a piezoelectric sensor, the Piezo Adapter requires a signal from the ID7-D-SEQ Lynx 7-channel Sequence Input Module. The ID7-D-SEQ requires one of the signals listed in the table below.

Signal	Change
Mold Opening	On -> Off
Mold Closing	On -> Off
Mold Fully Open	On-> Off
Mold Clamped	Off -> On

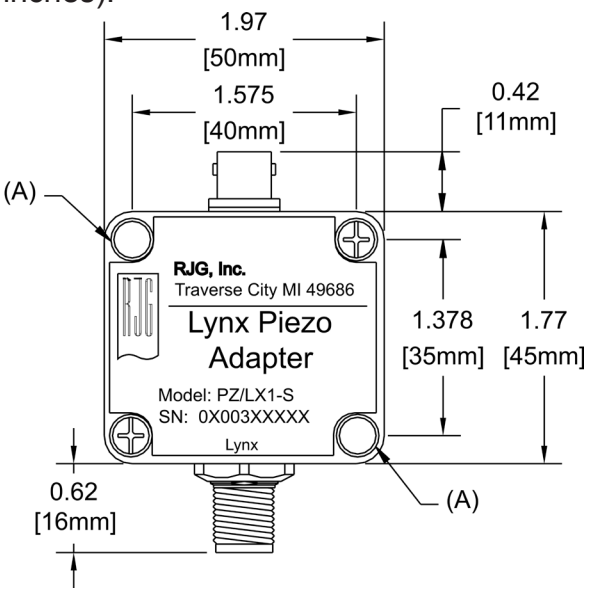
Make sure that the Ground Potential of the structure is the same as the Ground used by the *eDART*®.

Make sure that the Piezo Adapter and any connecting cables are out of the way of any sources of static such as feeder tubes and material hoppers.

Hardware Installation

Step 1:

Mill holes for mounting. The figure below shows mounting hole locations and overall dimensions (in inches).



Always power down before working on any equipment

NOTE
When not in use, keep protective cap in place to avoid contamination.

Step 2:

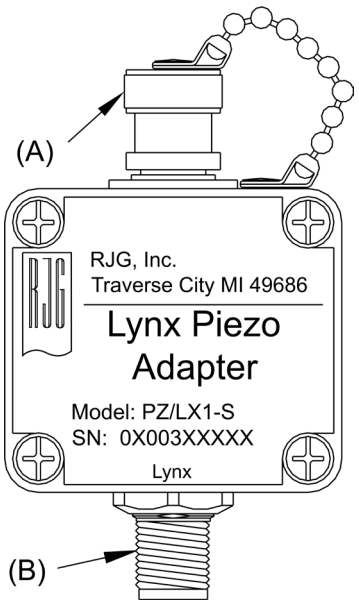
Mount the Piezo Adapter. The Piezo Adapter must be mounted on a frame grounded structure (such as a mold in the press or platen) or control panel to ensure proper operation.

Step 3.

Connect the cavity pressure sensor to connector (A). The figure below shows input and output connections.

Step 4.

Connect (B) to the Lynx Sensor network.



Lynx™ 50” Stroke-Velocity Encoder - LE-R-50

The LE-R-50 is a molding machine mountable linear position/velocity sensor designed to be used with the *eDART*® System. The Stroke-Velocity Encoder can be used to monitor standard screw position and speed on most injection molding machines.

See Figure 16 for relevant mounting information.

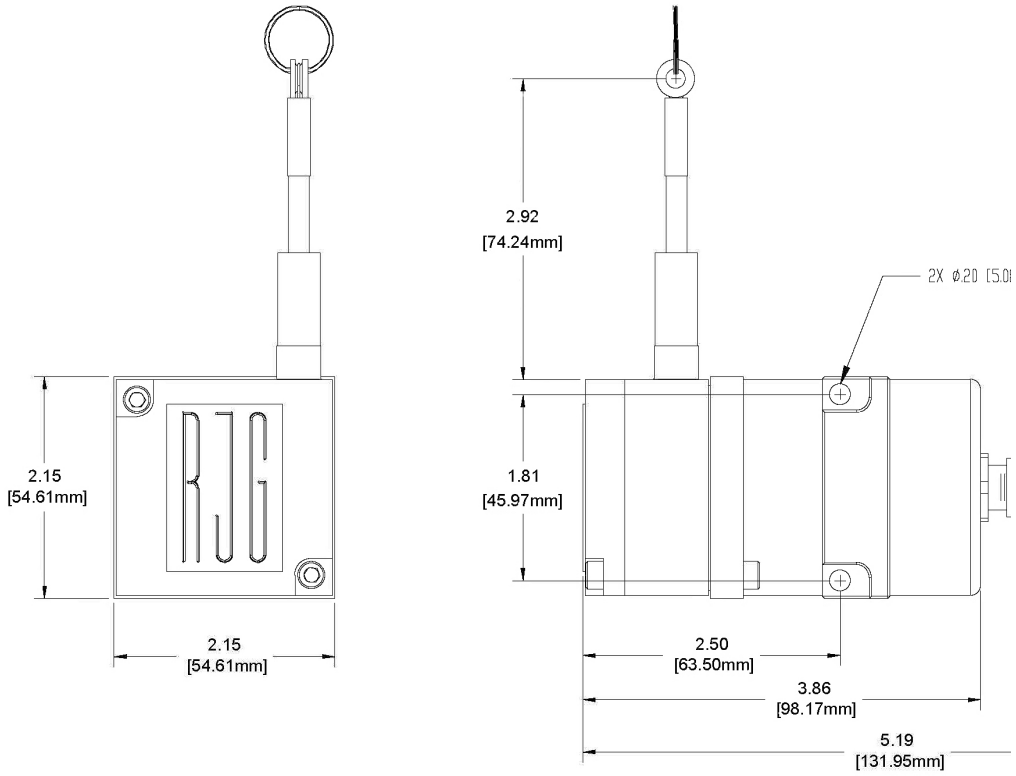


Figure 16: Stroke-Velocity Encoder dimensional drawing

Technical Specifications	
Power (supplied by *eDART*®)	12 VDC
Current Draw	65 mA

Stroke-Velocity Encoder technical specifications

LE-R-50 Installation Instructions

The preferred method of mounting the stroke sensor is to mount it on the injection unit sled near the back of the injection unit. See Figure 17. The sensor will then detect the movement of the screw, but not the movement of the sled.

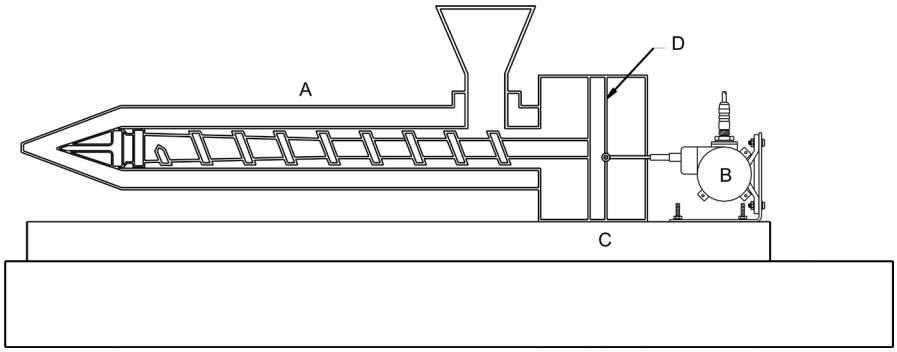


Figure 17: Stroke-Velocity Encoder mounting option 1

A	Machine Injection Unit
B	LE-R-50 Stroke Encoder
C	Injection Unit Sled
D	Injection Cylinder

Figure Labels

Take special care when installing the stroke sensor so the cable enters the nylon cable bushing straight to eliminate wear on the cable. (Reference Figure 20)

Another method of mounting the stroke sensor is to mount it on the molding machine near the back injection unit sled. The method should be used as a last resort because the sensor will detect the movement of the screw but also the movement of the sled. Another drawback is the loss of some of the usable length.

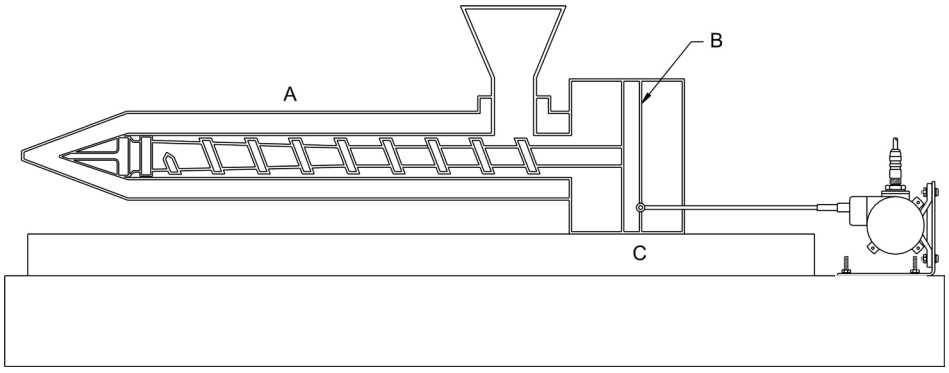


Figure 18: Stoke-Velocity Encoder mounting option 2

A	Machine Injection Unit
B	Injection Cylinder
C	Injection Unit Sled

Figure Labels

The stroke sensor can also be mounted on the injection unit sled near the front of the injection unit. It will then detect the movement of the screw but not the movement of the sled. This method should be used as a last resort because of heat. Care must be taken to keep the sensor at least 6-8” away from the barrel heaters.

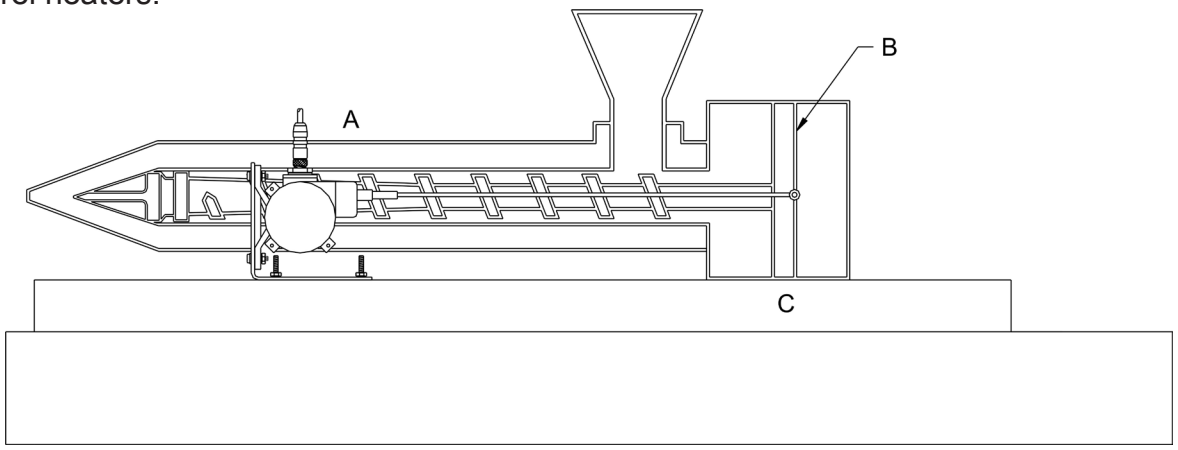


Figure 19: Stroke-Velocity Encoder mounting option 3

A	Machine Injection Unit
B	Injection Cylinder
C	Injection Unit Sled

Figure Labels

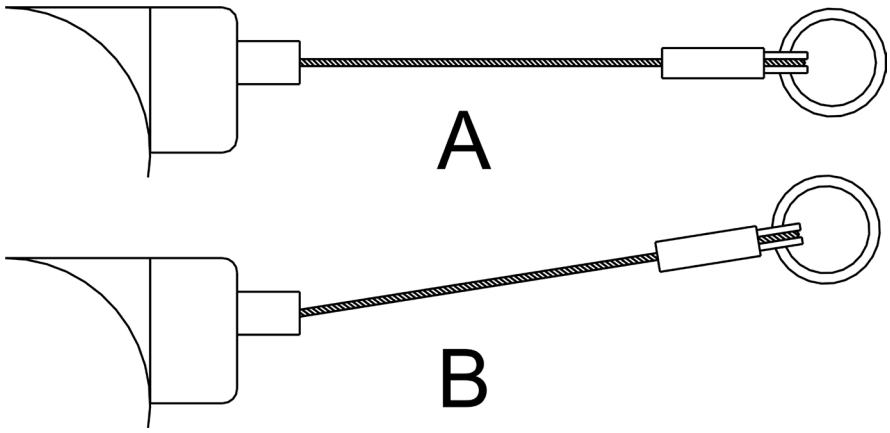


Figure 20: Stroke-Velocity Encoder mounting cable caution

Figure Labels

A	Acceptable
B	Unacceptable

Lynx™ Hydraulic Pressure Sensor - LS-H-1/4NPT-3K

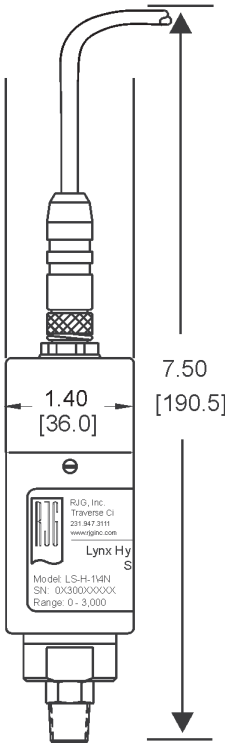
The Lynx™ LS-H-1/4NPT-3K is a machine mount hydraulic pressure sensor designed to be used with the *eDART* System™.

Always power down before working on any equipment

LS-H-1/4NPT-3K Installation

The LS-H-1/4NPT-3K is outfitted with a 1/4 BSPT male adapter to 1/4NPT female fitting that is attached to the machine's hydraulic system. This will be able to access the injection pressure and back pressures which build at the cylinder of the ram. The male fitting, which attaches to the hydraulic system, is shipped with 1/4" threads.

Once the LS-H-1/4NPT-3K is attached to the hydraulic system, it can be attached to the *eDART*® using standard Lynx™ cabling.



Technical Specifications	
Pressure Range	3000 PSI (4500 PSI)
Maximum Temperature	140 °F
Thread Type	1/4 NPT
Accuracy	1% Full Scale
Standard Connector	Microstyle DC Receptacle

Lynx™ Hydraulic Pressure technical specifications

Figure 22: Lynx™ Hydraulic Pressure dimensional drawing

Common Adapters

Conversion Adapter - BSPT to NPTF - F3HG
Male BSPT / Female NPTF

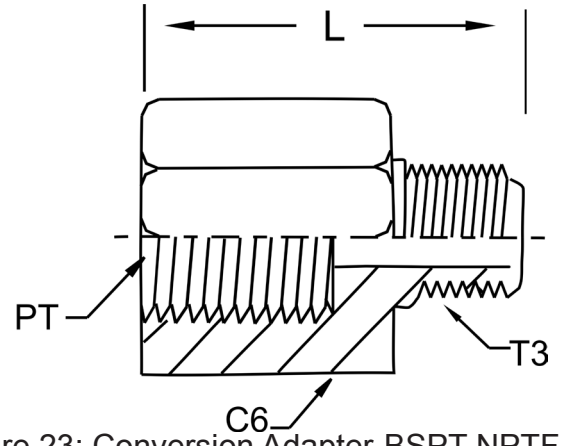


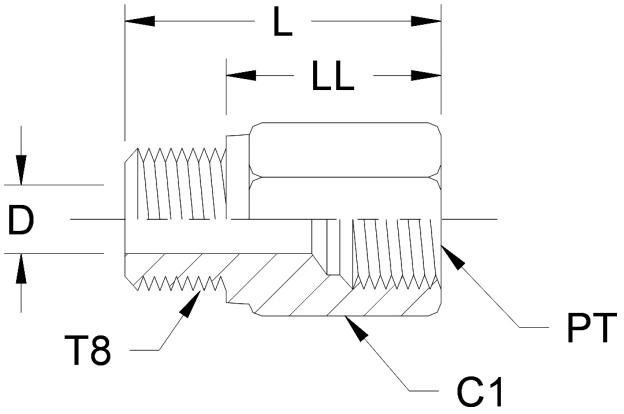
Figure 23: Conversion Adapter-BSPT NPTF dimension drawing

Technical Specifications					
Tube Fitting Part #	PT Female NPT	T3 Male BSPT	C6 HEX (inch)	L (mm)	Standard material from stock S SS B
1/4x1/4F3HG	1/4	1/4	3/4	34	*

Conversion Adapter - BSPT to NPTF technical specifications

Conversion Adapter - Metric to NPTF - F80HG

Male Metric / Female Pipe thread
F80HG - Assembled with O ring and retaining ring



NOTE

For information on the adapters used with the *eDART* System™ please contact:
Parker Hannifin Corporation
Tube Fitting Division
(614) 279-7070 or
www.parker.com.

Conversion Adapter - metric to NPTF technical specifications

Technical Specifications							
Tube Fitting Part #	PT Female NPTF	T8 Port THD Metric STR	C1 HEX (inch)	D Drill (inch)	L (inch)	LL (inch)	Standard material from stock S SS B
M12-1/4F8OHG	1/4-18	M12 x 1.5	3/4	.196	1.24	0.85	*
M14-1/4F8OHG	1/4-18	M14 x 1.5	3/4	.281	1.24	0.85	*

Figure 24: Conversion Adapter - Metric to NPTF dimensional drawing

Lynx Proximity Switch Interface with Proximity Switch - L-PX

The Lynx Proximity Switch Interface with Proximity Sensor provides a simple way to get a machine sequencing signal, typically mold clamped, from any molding machine.

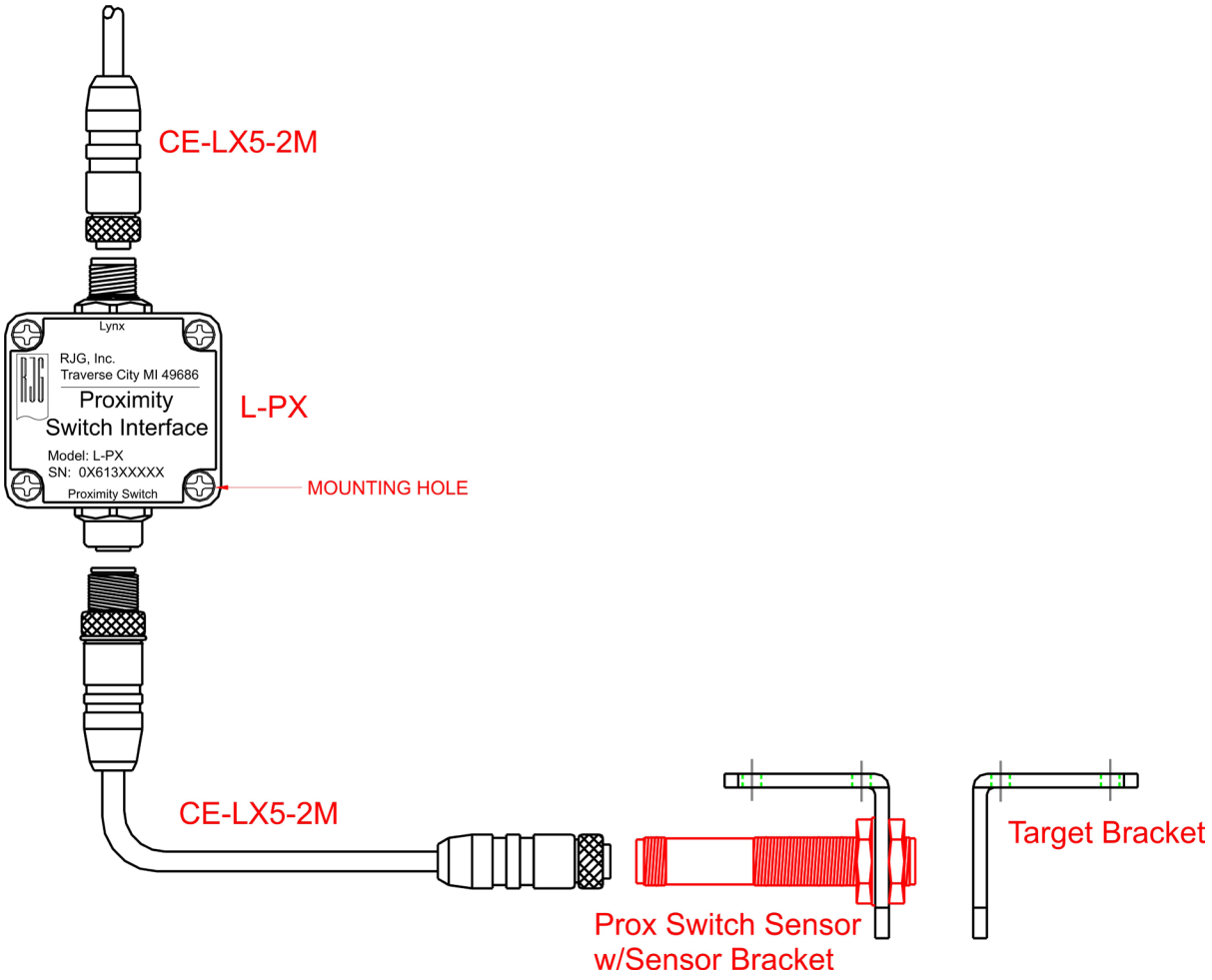


Figure 1: Lynx Proximity Switch Interface with Proximity Switch

Technical Specifications	
Proximity Sensor	12 mm N.O. NPN Sinking Proximity Switch with LED Allen-Bradley 872C-D3NN12-D4 or equivalent
Proximity Switch Connection	Male Micro 4 Pin
Interface Box Proximity Switch Connection	Female Micro 4 Pin
Interface Box Lynx Connection	Male Micro 4 Pin
Max. Temp. (Operating)	60 °C (140 °F)
Maximum On Distance	2.5 mm (.1”)

Table 1: *Technical Specifications*

Caution: Always disconnect and lock out the main power sources before making electrical connections. Electrical connections should be made only by qualified personnel.

Make sure that the Lynx Proximity Switch Interface and any connecting cables are out of the way of any sources of static such as feeder tubes and material hoppers.

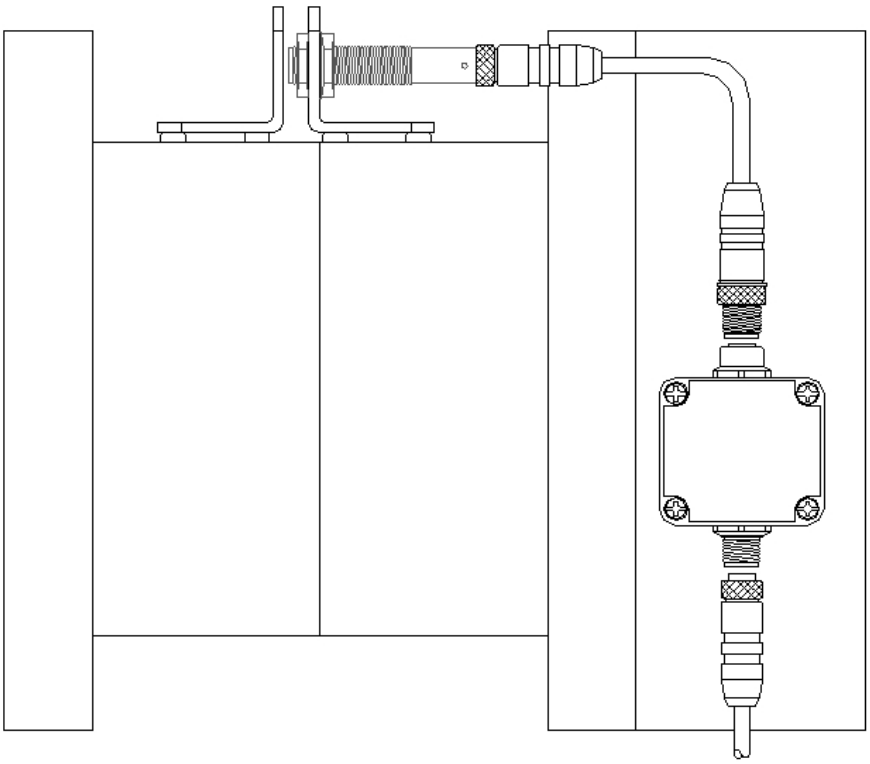
The magnets are only to be used to determine the correct mounting position.

Step One: Use the magnets to position the Proximity Sensor and Interface on the non-moving side as shown.

Step Two: Attach the Interface to the *eDART*®.

Step Three: Position the target bracket on the moving side as shown. Move as the target bracket as close as possible and confirm that the indicator LED on the sensor is lit. This should be less than .1”.

Step Four: Permanently install the sensor and interface in the determined positions.

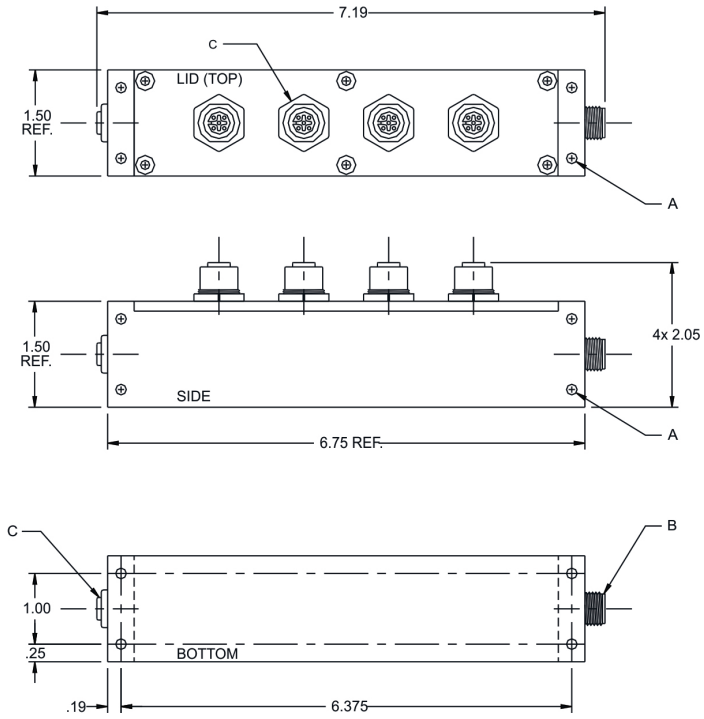


5-Port and 9-Port Lynx™ Junction Boxes - J-LX5-CE, J-LX 9-CE

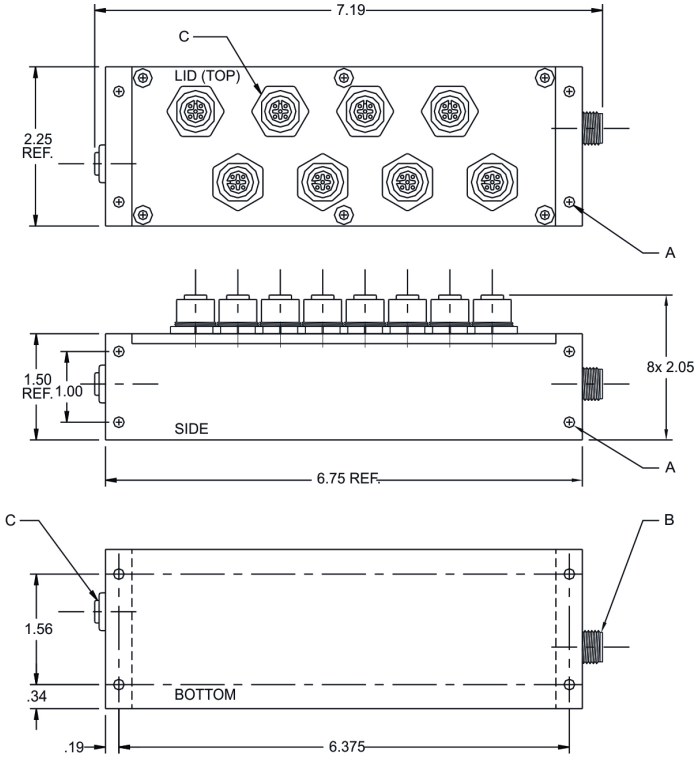
Designed to be used with the *eDART*® System, the J-LX5-CE and J-LX9-CE Lynx™ junction boxes can be mounted on the moving or stationary platen, mold half or any other convenient location on the molding machine.

Always power down before working on any equipment

Once mounted, the junction boxes allow up to nine Lynx™ devices to interface with other Lynx™ devices and the *eDART*® System. All devices get their power through the micro connectors on the junction boxes.



Lynx™ 5-port junction box J-LX5-CE



Lynx™ 9-port junction box J-LX9-CE

Note: 85 °C Maximum Operating Temperature

A	Mounting holes - drill and tap for #6-32 x 1.75” SHCS
B	Connects to *eDART* System™
C	Connects to *eDART*® sensors

Lynx™ J-LX1 and J-LX1-B Connector

Always power down before working on any equipment

J-LX1

The J-LX1 is a feed-through junction for use with the *eDART*® System Lynx™ network. The feed-through junction connects the DIN rail modules inside the machine panel to the *eDART*®, which is outside the machine panel.

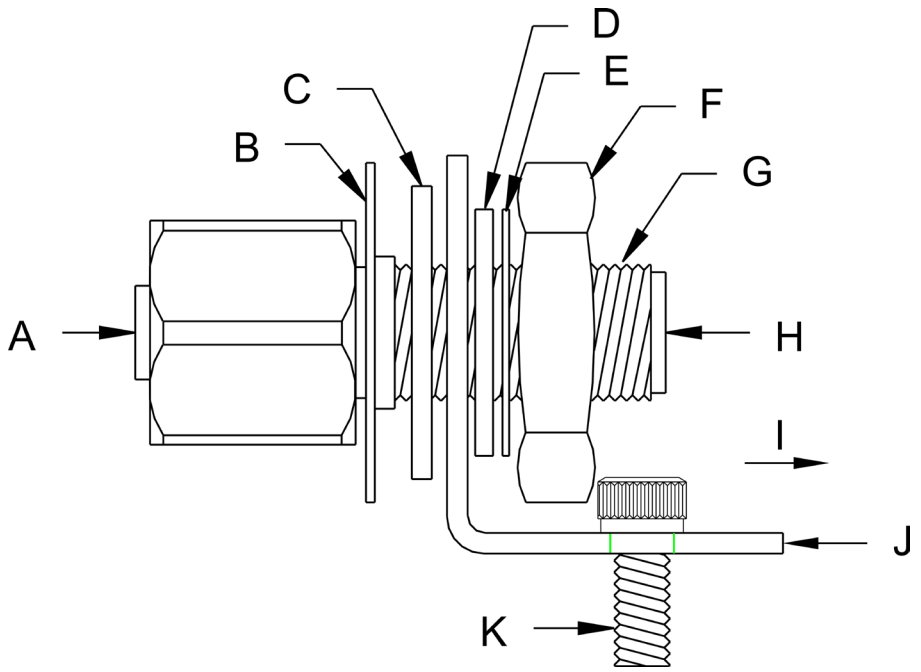


Figure 32: Lynx™ J-LX1 / J-LX1-B

A	Female Socket
B	Thin Shoulder Washer
C	Thin Plastic Washer
D	Rubber Washer
E	Steel Washer
F	Nut
G	Threads
H	Male Pins
I	To *eDART*®
J	Bracket (J-LX1-B only)
K	(2) 10-32 x 1/2” Hex Head Screws (J-LX1-B only)

Figure Labels

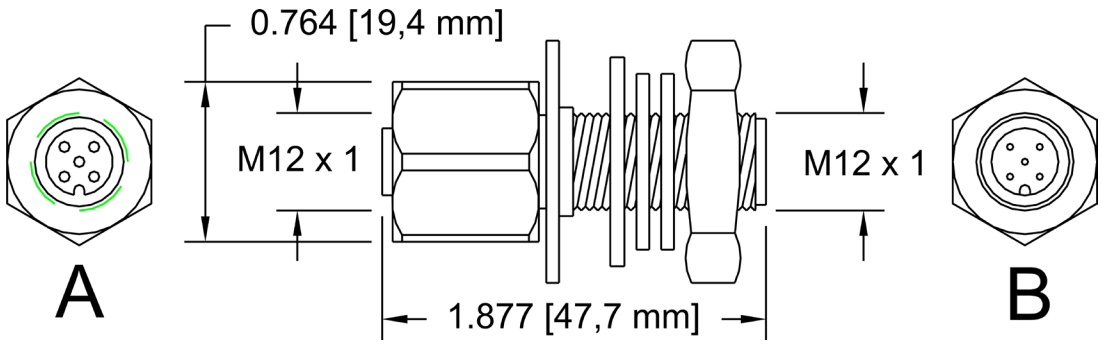


Figure 33: Lynx™ J-LX-1 dimensional drawing

A	Sockets
B	Pins

Figure Labels

J-LX1-B

The J-LX1-B is a mold or platen mount junction for use with the *eDART*® System Lynx™ network. The junction connects various Lynx™ mold and machine mount devices, while allowing Lynx™ cabling to be safely routed around the mold.

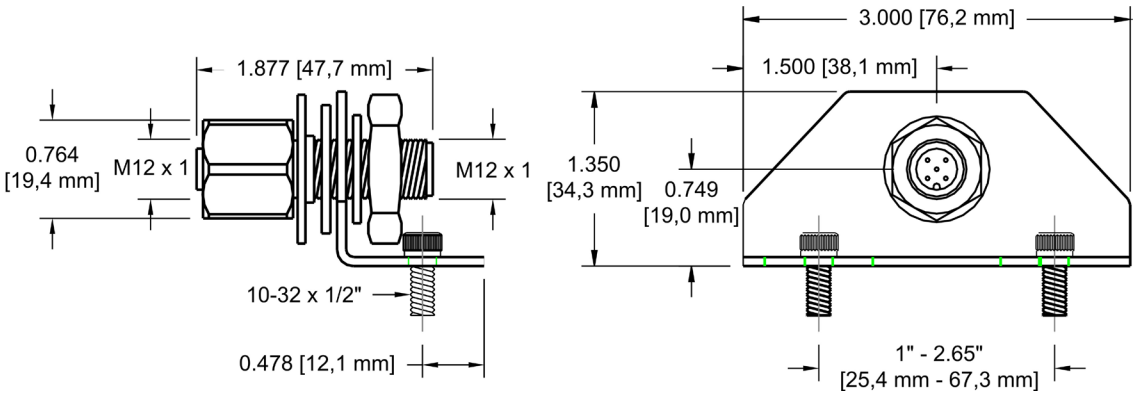


Figure 34: Lynx™ J-LX-B dimensional drawing

Preventative Maintenance, Service and Disposal

Preventative Maintenance

Periodic inspection of the *eDART*®, Power Cable, and any connecting cables should be performed to detect any possible damage. If any damage is found cease using *eDART*® and contact Qualified Serviceman or RJG in the USA at (231) 947-3111 or on the web www.rjginc.com.

The *eDART*® contains no user servicable parts. Only qualified personal should work on the *eDART*®.

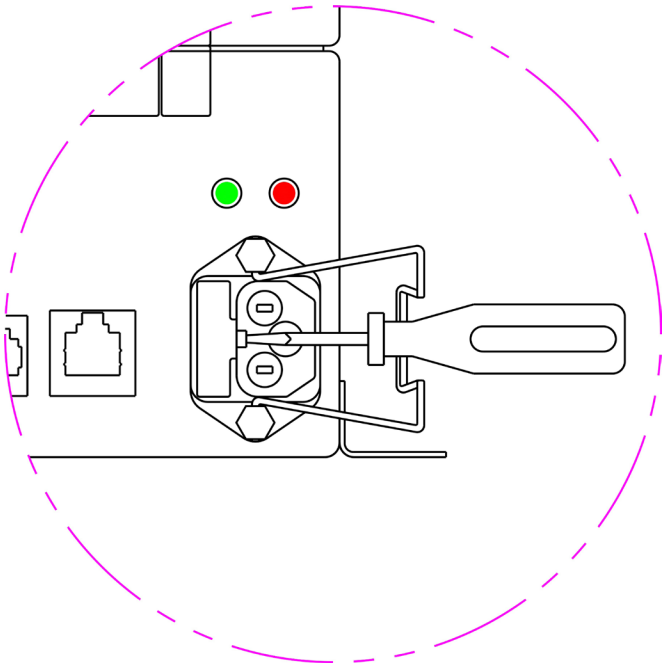
Replacement Parts	
Power Module Fuse	Wickmann 3961200044 or equivalent 5X20 mm 2.5 A 250 V fast acting fuse
Lynx Port Fuse	Wickmann 3961200044 or equivalent 5X20 mm 2.5 A 250 V fast acting fuse
Interface Board Fuse	Littelfuse 02183.15HXP or equivalent 5X20 mm 3.15 A 250 V slow acting fuse
Bios Battery	Panasonic BR2032 or equivalent
Power Cord	Quail Electronics 8500.098 or equivalent VDE certified, Male CEE 7/7, Female IEC-60320-C13, 10 A 250 VAC Jacket H05VV-F

Replacing Power Fuses

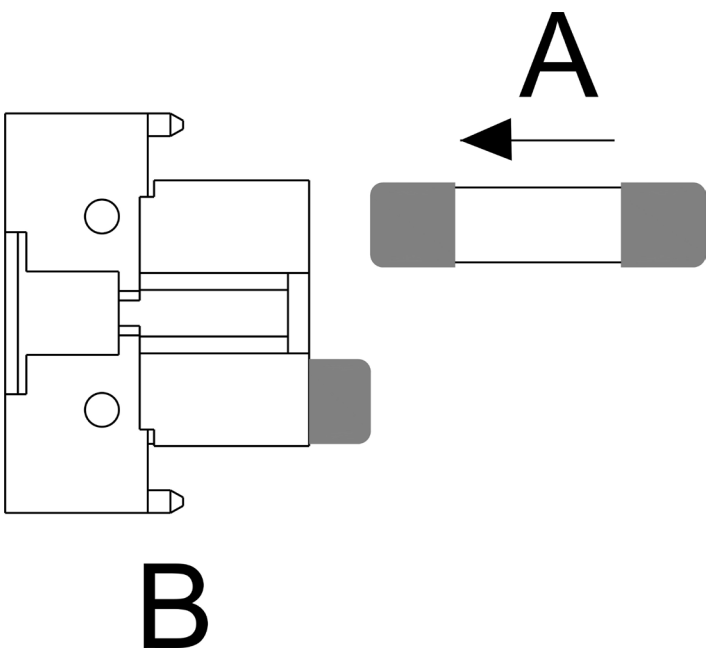
Step 1.
Before starting, ensure that the power cord and any other cables are not attached to the *eDART*® and the *eDART*® is not mounted.

> Always disconnect and lock out the main power sources before making electrical connections. Electrical connections should be made only by qualified personnel.

Step 2.
Carefully use a flat head screwdriver to remove the fuse holder from the power inlet module.



Step 3.
Carefully remove the bad fuse and replace it with Wickmann part #3961200044 or an equivalent 5X20 mm 2.5 A 250 V fast acting fuse. Reinsert the fuse holder in the power inlet module.

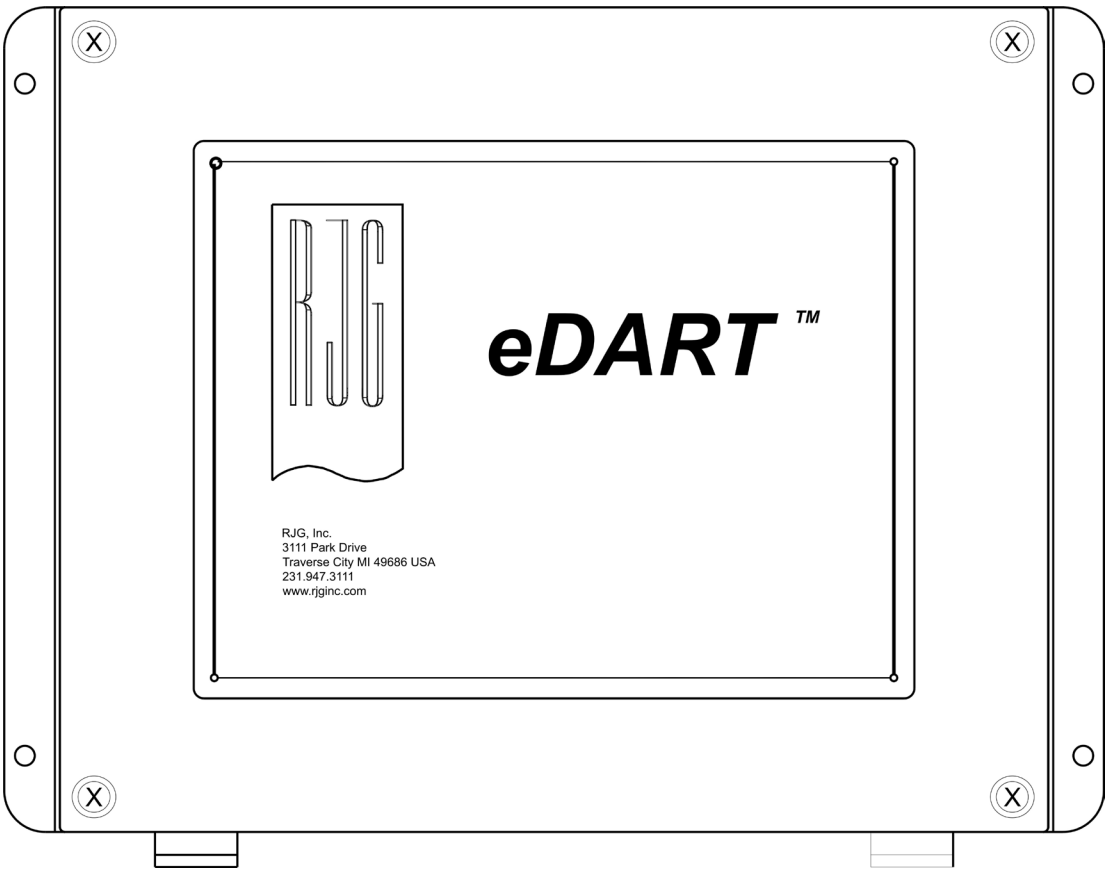


Replacing Lynx Port Fuses

Do not touch any of the other components inside the *eDART*® other than the fuses. Failure to follow these precautions may cause severe damage to motherboard or interface board and may cause personal injury or death.

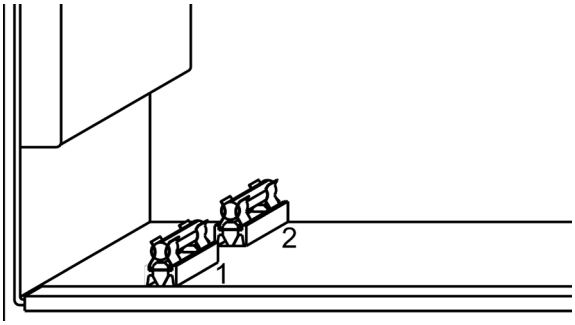
Always disconnect and lock out the main power sources before making electrical connections. Electrical connections should be made only to qualified personnel.

Step 1:
Before starting, ensure that the power cord and any other cables are not attached to the *eDART*® and the *eDART*® is not mounted.



Step 2:
On the bottom left side of the box locate the two Lynx port fuses. The figure below shows the locations of the Lynx port fuses for Lynx port 1 and Lynx port 2. Carefully remove the bad fuse and replace it with Wickmann part #3961200044 or an equivalent 5X20 mm 2.5A 250 V fast acting fuse.

Step 4:



Replace the Lid and tighten the 4 lid screws.

Disposal

If you wish to discard the *eDART*®, or supporting equipment, please contact RJG or an RJG representative.