

# Extension Cables

## For Remote Operation of Teledyne Isco Syringe Pumps

### Overview

This technical bulletin describes how to configure a syringe pump system for remote operation using extension cables.

Remote operation may be required for conditions such as:

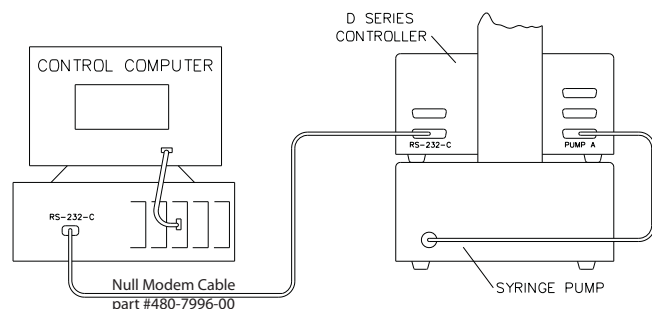
- Hazardous location areas with a command or control center in the safe zone.
- Operating the syringe pump placed behind a bunker, blow-out walls, or berms to bear an explosion.
- Personal safety or convenience, such as removing the operator from a high noise environment.

### Remote Operation

Two ways to operate the system remotely are described below.

#### Computer Control of Remote System

First, the Teledyne Isco syringe pump and controller may be located in the remote location, and then locally operated via a computer (Figure 1). The local computer requires user-written or LabVIEW<sup>1</sup> software that communicates with the syringe pump controller using RS-232 protocol. Custom or user-supplied cables may be extended to a maximum of 50 ft (15.2 m). Refer to [Technical Bulletin 6](#) for more details about remote operation using a control computer.



**Figure 1: Remote operation using a control computer**

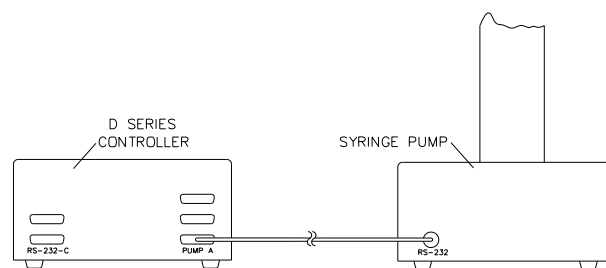
#### Local Syringe Pump Controller with Remote Syringe Pump

In this configuration, an extension cable is used to separate the controller and the pump. Standard length extension cables are 10 ft (3 m) long. Refer to Table 1 for part numbers.

**Table 1: Extension Cables**

Part Number	Description
<b>Extension Cables for Non-hazardous Locations</b>	
68-1020-210	Extension Cable, 10 ft. (3 m); Series D controller to pump.
68-1020-214	Extension Cable, 50 ft. (15.2 m); Series D controller to pump
<b>Hazardous Location Extension Cables</b>	
60-1020-243	Extension Cable, 10 ft for Series D Hazloc Syringe Pumps; from Pump to Controller
68-1020-244	Extension Cable, 30 ft (9.1 m) for Series D Hazloc Syringe Pumps; from Pump to Controller. (NOTE: Hazloc pump must be calibrated at factory).

Should greater lengths be necessary, full-length extension cables are available. With these cables, Non-hazardous applications can be extended up to 50 ft (15.2 m). Hazardous location applications can be extended to 30 ft (9.1 m). The Hazloc syringe pump controller requires factory calibration to use a 30 ft extension cable.



**Figure 2: Remote operation by extending the distance between the controller and pump**

1. LabVIEW is a registered trademark of National Instruments Corporation. More information can be found at [www.ni.com/labview](http://www.ni.com/labview).

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### Teledyne Isco

P.O. Box 82531, Lincoln, Nebraska, 68501 USA  
Toll-free: (800) 775-2965 • Phone: (402) 464-0231 • Fax: (402) 465-3001  
E-mail: [IscoService@teledyne.com](mailto:IscoService@teledyne.com)

Teledyne Isco is continually improving its products and reserves the right to change product specifications, replacement parts, schematics, and instructions without notice.

