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Intelliflex I/O

Section 1 - Overview

The IntelliFlex I/O IP Gateway (IPG) provides a simple solution for connecting a network of IntelliFlex I/O devices to an IP network. With a built in two port network switch, each IPG can be connected directly to a building network, or daisy chained to other IPGs to form a stand-alone network. When networked together, the IPGs provide access to all connected IntelliFlex I/O devices, allowing for any number of networks to be joined together for medium or large-scale projects.

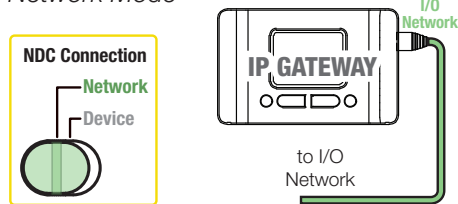
Configuration is all done using the built-in buttons and display, no computer connection required.

- Allows any number of IntelliFlex I/O networks to be connected together
- Built-in 2 port network switch provides flexible installation options
- Buttons and screen on-board for easy configuration

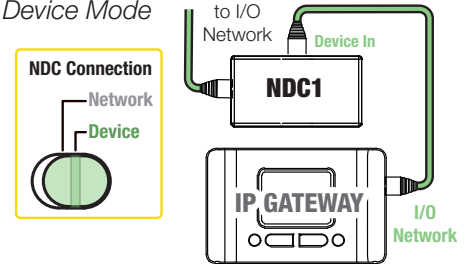


Section 2 - I/O Network Wiring

I/O Network Wiring  
Network Mode



I/O Network Wiring  
Device Mode

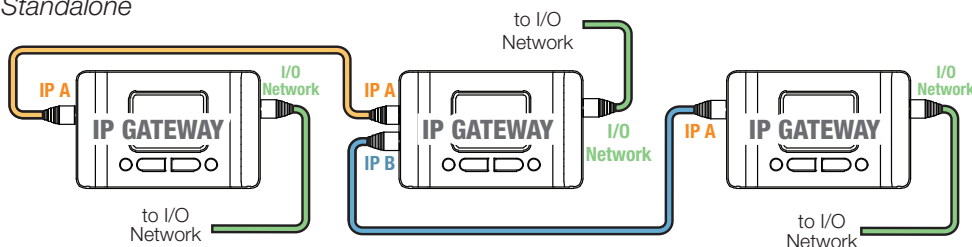


Section 3 - IP Network Wiring

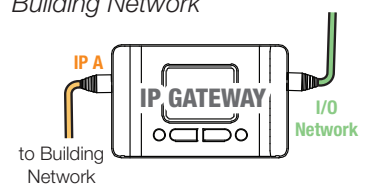
IP Gateways can be wired as a standalone network or as part of a building network.

**Please Note:** Maximum wiring distance between IPGs and/or CNC is 300' (91M).

IP Wiring  
Standalone



IP Wiring  
Building Network



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## Section 4 - Network Verification

1. Prior to continuing w/IPG programming, verify the shade network by selecting DEVICE LIST from the menu options.
2. Verify the stability of shade network.

If IPG detects an unstable or missing network, please reference the NDC instructions for standard troubleshooting steps.

3. Verify Total Device count is correct
4. Verify Device breakdown to determine missing devices (if applicable).

```
5 Total Devices
Network Stable
3 AC Motor
2 1 Zone Switch
```

## Section 5 - IPG Configuration

1. Select Configuration from the Main Menu to access the Configuration menu.

```
Configuration
>IP Port
IP Groups
BACnet
Factory Reset
```

The following parameters can be configured from the IP Port Screen:

Mode ▶	DHCP (Static)
IP Address ▶	192.168.1.90 (Read Only if DHCP)
Subnet Mask ▶	255.255.255.0 (Read Only if DHCP)
Default Gateway ▶	192.168.1.1 (Read Only if DHCP)
MAC Address ▶	AABBCCDDEEFF (read only)

## Section 6 - IP Command Protocol

The IPG can be used to control groups of shades by sending commands over IP.

Commands are sent using a UDP packet with the following ASCII characters. See Section 6.1 for group configuration.

START	ADDRESS	COMMAND	END
1 Char	2 Chars	1 - 4 Chars	1 Char
<b>G</b>	<b>XX</b>	<b>YYYY</b>	<b>!</b>

**XX** = The Group Number to command from 01 to 99.  
This must be a two digit number; 0 must precede any single digit number.  
**Y-YYYY** = Shade command from the following table

COMMAND	ACTION
<b>O</b>	FULLY OPEN
<b>C</b>	FULLY CLOSE
<b>S</b>	STOP
<b>P</b>	PREVIOUS STOP
<b>N</b>	NEXT STOP
<b>T</b>	TOGGLE
<b>CO</b>	CLEAR OVERRIDE
<b>0-100</b>	MOVE to %
<b>PS0 - PS64</b>	MOVE to PRESET STOP
<b>TO</b>	TILT OPEN
<b>TC</b>	TILT CLOSED
<b>TP</b>	TILT to PREVIOUS STOP
<b>TN</b>	TILT to NEXT STOP
<b>T0-T100</b>	TILT to %
<b>TS0 -TS64</b>	TILT to PRESET STOP

### EXAMPLES:

COMMAND	ACTION
<b>G01O!</b>	Move motor group 1 fully open.
<b>G0486!</b>	Move motor group 4 to 86% closed.
<b>G15S!</b>	Stop motor group 15.

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## Section 6.1 – Setting Groups

1. Select IP GROUPS from the main menu to enter the IP Group Configuration menu.

```
IP Groups
>Groups
IP Monitor
Learn Commands
Port      10000
```

### 6.1.1 - Selecting Groups

1. Select GROUPS to show list of 99 available IP groups.
2. Selecting individual groups allows you to configure the settings for that group.

```
Groups
Group 1  Master
Group 2  Custom
Group 3  GG 10
" " "
Group 99 Master
```

#### From this menu, you can configure the following parameters:

**Group:** Assigning Contact Closure Group to previously configured shade group or assign as a MASTER.

**Priority:**

**Low:** Contact Closure Group will only operate if there are no other overrides on the group.

**Normal:** Contact Closure Group will operate shade group if no HIGH priority overrides on the group.

**High:** Contact Closure Group will lock-out all other controls until cleared.

**Profile:** Please refer to section 4.3 for profile descriptions. Profile selection will apply to all 3 Contact Closure groups.

**Override Time:** Time in minutes that the Contact Closure Group override will be active.  
The range can be NONE (indefinite override) or anywhere from 1-999 minutes

### 6.1.2 - IP Monitor

1. The IP Monitor option will display UDP commands that are received by the IPG.  
This can be helpful to troubleshoot any communication issues.

#### Example of IP Monitor receiving correct data:

```
IP Monitor
Group: 3
Command: P
Move to Previous
Preset Stop
```

#### Example of IP Monitor receiving incorrect data (missing 0 in group #):

```
IP Monitor
Data Received:
G3P!
```

### 6.1.3 - Learn Commands

#### The IP Gateway can learn commands to integrate more easily with other systems.

1. Select LEARN COMMANDS from the menu.
2. Up to 100 commands can be learned. Select the command number from the list.
3. Select COMMAND to begin learning the new command.  
Once the display shows "Learning...", send the UDP COMMAND to learn.  
Once learned, it will show in the COMMAND field.

**Please Note:** Max command size is 32 characters. Do Not duplicate learned commands.

4. Select the ACTION to take when the common is received.
5. Select the GROUP number that the command should control.

### 6.1.4 - UDP Port

1. Set UDP port that IPG should listen for commands on (UDP port range 0-65535)

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## Section 6.2 - BACnet Configuration

The BACnet configuration menu allows setting the following BACnet parameters when integrating with a BMS.

### Section 6.2.1 - BACnet Parameters

**BACnet Port** - The UDP port number used by the BMS to communicate with the IPG

**Router Port** - The UDP port number used by the Draper IntelliFlex I/O devices to communicate with each other.

**Device ID** - The BACnet Device ID for the IPG

**MS/TP Network Number** - The BACnet MS/TP Network Number for the network connected to the IPG.

**BBMD Address** - The IP Address for the BBMD server in the network (if needed).

```

BACnet Config
>BACnet Port
      47808
Router Port
      47900
Device ID
      123456
MS/TP Network #
      345678
BBMD Address
  0.  0.  0.  0

```

## Section 6.3 - Factory Reset

1. Select Factory Reset from configuration screen and confirm resetting IPG back to default settings.

```

Configuration
>IP Port
IP Groups
BACnet
Factory Reset

```

## Section 6.4 - BMS Groups

Each configured group (Section 6.1) is represented as a BACnet/IP point that can be used by a BMS to override shade group position.

See Deployment Guide - IPG BMS Integration for further details.