Overview - **Commissioning Process**

1. Preparation

> **Please Note:** ***Prior to commissioning an I/O system, it is important to complete the "Intelliflex I/O Project Planning Sheet (PPS)". Please scan QR code to download now if you haven't already***

2. Setting Limits, Direction, Name and Groups (I/O Motors Only)

The limits and direction for I/O motors are normally set as the shades are installed using a Direct Connection to the motor. *(See Section 1 - Connecting to Devices).*

At the same time the limits are set, the shade name and groups should be programmed as detailed in the PPS.

Alternatively, the default unique identifier for each shade can be noted on the PPS instead of changing the name of the shade.

3. Verify Network

Once all shades and devices have been networked together and powered on, the Motor Limit Tool is used to verify the network is functioning correctly, and all devices are communicating. (See Section 2).

Do not move on to further steps until all network issues have been resolved.

4. Setting Name, Groups and Calibrating (Standard Motors Only)

When standard motors are used, the setting of names and groups is done by using the Networked Connection method. *(see Section 1 - Connecting to Devices).*

All shades should be calibrated, then identified one at a time to set the name, type, groups, and direction for the shade. *(see Section 2 - Shade Properties).*
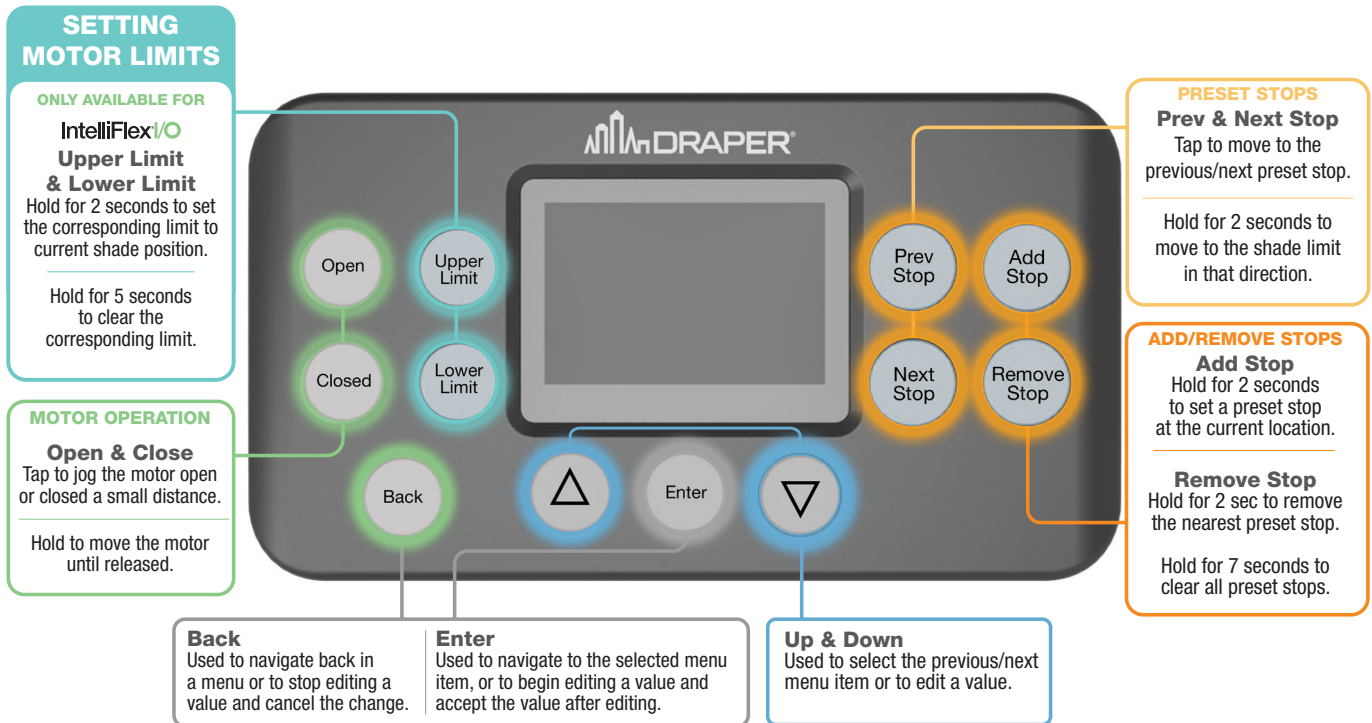
5. Program Groups into Control Devices

While connected to the network, program the correct group number into each control device (switch, sensors, contact closures, etc.).

6. Verify Operation

Once complete, verify that all control devices correctly operate shades.

Use the Motor Limit Tool to make any adjustments needed.
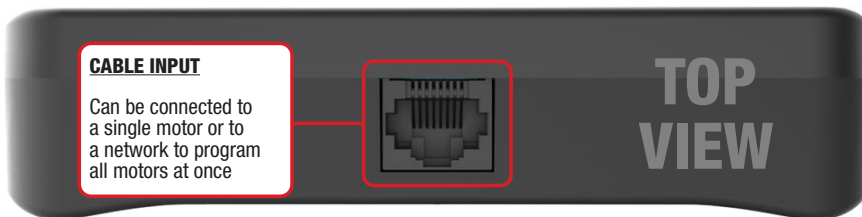
Button Overview

SETTING MOTOR LIMITS

ONLY AVAILABLE FOR IntelliFlex I/O
Upper Limit & Lower Limit
Hold for 2 seconds to set the corresponding limit to current shade position.

Hold for 5 seconds to clear the corresponding limit.

MOTOR OPERATION
Open & Close
Tap to jog the motor open or closed a small distance.

Hold to move the motor until released.

PRESET STOPS
Prev & Next Stop
Tap to move to the previous/next preset stop.

Hold for 2 seconds to move to the shade limit in that direction.

ADD/REMOVE STOPS
Add Stop
Hold for 2 seconds to set a preset stop at the current location.

Remove Stop
Hold for 2 sec to remove the nearest preset stop.

Hold for 7 seconds to clear all preset stops.

Back
Used to navigate back in a menu or to stop editing a value and cancel the change.

Enter
Used to navigate to the selected menu item, or to begin editing a value and accept the value after editing.

Up & Down
Used to select the previous/next menu item or to edit a value.

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Section 1 - **Connecting to Devices**

The Motor Limit Tool (MLTI) can be used in two ways:

Section 1.1 - Direct Connection

The Motor Limit Tool can be plugged directly into the
data cable from an IntelliFlex I/O motor to configure
each motor individually. When directly connected,
only the motor configuration screen is available.
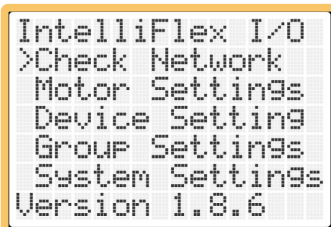*(See Section 3).*

CABLE INPUT

Can be connected to
a single motor or to
a network to program
all motors at once

TOP
VIEW

Section 1.2 - Networked Connection

The Motor Limit Tool can connect to an I/O network through the device port of a
Network Device Connector (NDC) on the network.

When connected in this way, any motor or device in network can be configured
and all functions of the Motor Limit Tool are available.

Please Note: Some sections only apply to a network connection as indicated.

When using the network connection method,
the MAIN MENU will be shown on the MLT Screen:

```
IntelliFlex I/O
>Check Network
 Motor Settings
 Device Setting
 Group Settings
 System Settings
Version 1.8.6
```

NDC1

Network In   Power   DRAPER   Network Status   Network Out

Device

NDC3

Network In   Power   DRAPER   Network Status   Network Out

Device 1   Device 2   Device 3

Section 2 - **Check Network**

The CHECK NETWORK screen can be accessed from the MAIN MENU

and is used to verify network stability & confirm device count & firmware status.

```
10 Total Devices
Network Stable
8  AC Motor
      1.9.2-1.9.8
2  Wall Switch
          1.8.7
```

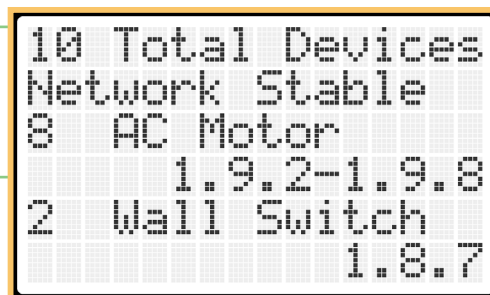### Section 2.1 - Network Stability

Network Stable - No communication issues detected on network

Network Unstable - Intermittent communication issues detected.

(See NDC instructions for troubleshooting steps)

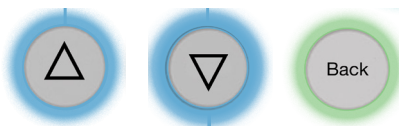**Network Not Found -** No network communication detected.

(See NDC instructions for troubleshooting steps)

Section 2.2- Device List
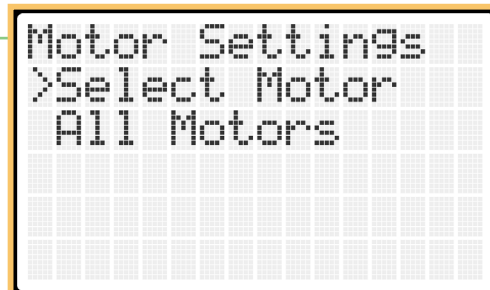
The total # of devices is shown on the top of the screen.

A detailed list of device quantities and firmware versions is shown below the total.

```
Motor Settings
>Select Motor
 All Motors
```

The UP & DOWN buttons are used to scroll through the list.

Back

The Back Button returns to the Main Menu.

Please Note: All devives must be at firmware version 1.8.X or higher to be compatible with all functions described in this document

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Section 3 - **Motor Settings**

```
Motor 13245
Command 1 of 4
5-High
Position    50.0
Time Left   106
Switch 243-1
```

The Motor Limit Tool can be used to program both intelligent IntelliFlex I/O motors and standard motors connected to the I/O network using either 1 or 4 motor controllers (1MC or 4MC).

Section 3.1 - Select Motor

Shade properties can be configured by selecting the motor from the list.

When the motor is highlighted from the list, it will jog to identify itself.

Below is a list of properties that can be configured.

Property	Description	Values	Motor Types S=Standard Motor, AC= Smart AC Motor, DC=Smart DC Motor	Notes
Motor Name	Identifying name for motor	Name consists of Base (select from list), Number (up to 5 digits), Extension (up to 2 digits).	All	The current name is shown on the top screen. This can be changed by selecting RENAME.
Limits Set	Shows if upper and/or lower limit is set	Both,Upper, Lower & None	AC,DC	To set limits, refer to "Button Overview" section
Current Postion	Shows shades current position	0(open)-100(closed)%. If @ preset stop, stop # shown in ().	All	To move shade, refer to "Button Overview" section(<-- Josh can you update with actual section #?)
Tilt Position	Shows current tilt position	0(open)-100(closed)%. If @ preset stop, stop # shown in ().	S	Only if shade type is set to VENETIAN or LOUVER
Shade Type	Type of motorized product being controlled	Roller, Venetian, Louver	S	
Calibration Status	Shows if travel time of motor has been configured	Calibrated or Uncalibrated	S	Normally motors can be automatically calibrated. In other cases, an open & close time for the shade can be manually entered.
Direction	Direction of travel	Normal or Reversed	All	
Speed	Speed at which shade travels	RPM range for the motor	DC	
Preset Stops	Intermediate stopping points	Up to 32 stopping points	All	"Use this menu to automatically set equally spaced preset stops. To manually set custom presets, refer to "Button Overview" section
Tilt Time	Time it takes slats to tilt open/close	In seconds, up to the hundreth value.	S	Only if shade type is set to VENETIAN or LOUVER
Tilt Stops	Intermediate tilt stopping points	Up to 32 stopping points	S	"Use this menu to automatically set equally spaced preset stops. For Venetian, only 3 preset stops are recommended. "
Default Position	Position the shade returns to when no other overrides are present.	None, Open, Closed	All	If set to NONE, shade will stay at current position until next override command.
Groups	Shade groups that the motor is assigned to	Up to 64 Groups	All	Select Groups as defined in the Project Planning Sheet. NOTE- Groups are global across all connected shade networks. Be sure to select a unique group # for each group.
Version	Motor Firmware Version	x.yy.zz	All	This info may be requested during troubleshooting.

Section 3.1.1 - Override Status

The Override Status screen shows all current overrides on the motor.
This can be an important feature for troubleshooting or verifying programming.

- **Motor Name**
- **# of commands currently on the motor.** Use U/D arrow to cycle between overrides.
- **Priority Level:** Every command has a priority between 1-15. The lower the #, the higher the priority.

   The shade will always respond to the highest prioritycommand. To have a shade respond to a lower command (higher # priority) all higher commands must be cleared first. *See Section 3.2 to CLEAR OVERRIDES*
- **Position:** Position the shade is being overridden to.
- **Time Left:** The amount of time, in minutes, left on the override.
- **Overriding device:** Shows the control that is overriding the shade.

Section 3.1.2 - Copy & Paste

Once configured, all settings for the shade can be copied into the Motor Limit Tool to be pasted into another shade later.

This is done by selecting COPY SETTINGS from the menu

If the shade was previously copied, it can be pasted to the currently selected shade by selecting PASTE SETTINGS.

Section 3.1.3 - Factory Reset

Select FACTORY RESET to erase proggramming for the shade and return to default settings.
Optionally, you can erase only the preset stops or groups.

Section 3.2 - Motor Settings - All Motors

Some properties of the motors can be configured all a once by selecting ALL MOTORS from the MOTOR SETTINGS menu.

COMMANDS MENU OPTIONS:

Auto Calibrate: Initiate calibration process for all standardmotors in the network.
(only shown if standard motors are present)-

Clear Override: Clears all overrides for all motors in the network-

Reverse Motors: Swaps motor direction for all motors in the network

```
All Motors
>Commands
 Paste Settings
 Set Type
 Set Default Pos
```
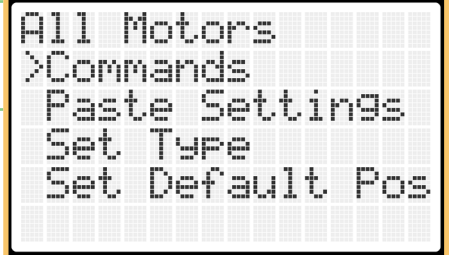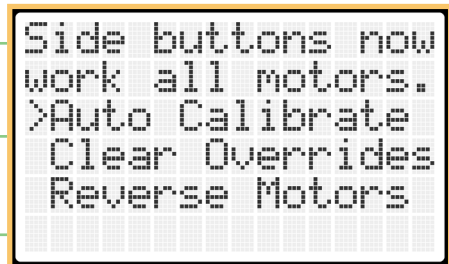
PASTE SETTINGS:

Refer to section 3.1.2. This can be used to paste settings to allmotors on the network.

SET TYPE:

Used to set the shade type for all motors on the network. See section 3.1

SET DEFAULT POS:

Used to set the default position for all motors on the network. See section 3.1

```
Side buttons now
work all motors.
>Auto Calibrate
 Clear Overrides
 Reverse Motors
```

Section 4 - **Device Settings**

Some properties of Intelliflex I/O controls can be configured from the MLT.

To configure devices, select DEVICE SETTINGS from the Main Menu.

To configure a device, select from the available device types.

Please scan QR code at the top right of each page to access specific IntelliFlex I/O device programming instructions.

```
Device Settings
>Switch
 Sensor
 Glare Control
 RF Remote
 Serial Port
 Contact Closure
 IR
 Low Voltage
 IP
```

Section 5 - **Group Settings**

There are 64 groups that shades can belong to and that devices can control.

These groups can be configured from the MLT.

```
Group Settings
>Group Motors
 Group Devices
```

Section 5.1- Group Motors

1. Select 1 of 64 available groups to configure.
   When highlighted, the group will identify by jogging all motors in that group, if assigned. All available motors will populate.
2. To assign motors to a group, select motor from the list, then hit enter to check the motor selection box.
   Any motor with a check will be part of the selected group.
3. Press the back button to return to the Group Settings menu.

Section 5.2 Group Devices

1. Select 1 of 64 available groups to configure.
   When highlighted, the group will identify by jogging all motors in that group, if assigned.
   All available device types will populate.
2. To assign devices to control a group, select the device type from the list, then select the device name and press enter to check the device selection box.
   Any device with a check will be part of the selected group.
3. Press the back button to return to the Group Settings menu.

Section 6 - **System Settings**

The Motor Limit Tool can be used to perform other functions that affect the entire system.

These functions are outlined below. To adjust, select System Settings from the Main Menu.

```
System Settings
>Factory Reset
 Restart Devices
 Override Time
            None
 NDC Commands
```

Factory Reset:

Clear Presets - Select to clear preset stops from ALL motors.

Clear Groups - Select to clear groups for ALL motors.

Clear All - Select to factory reset all motor/device programming.

Restart Devices:

As part of the troubleshooting procedure, it can be helpful to restart the devices. This DOES NOT reset any device/motor programming.

Override Time:

This can be used to set an override time to all devices on the network.
To configure a specific override time for each device, please refer to specific device programming instructions.

NDC Commands:

LEDs: On/Off - Can be used to turn off all NDC LEDs. This can be useful in open ceiling applications.

Terminate: Auto/Off - Troubleshooting step if there is an issue w/Auto Termination.

Filter: Auto/Off - Troubleshooting step if there is an issue w/Auto Filtering.

Show Version: Selecting this will cause NDC POWER LED to flash NDC FW Version #.