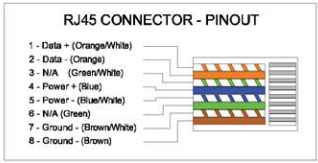
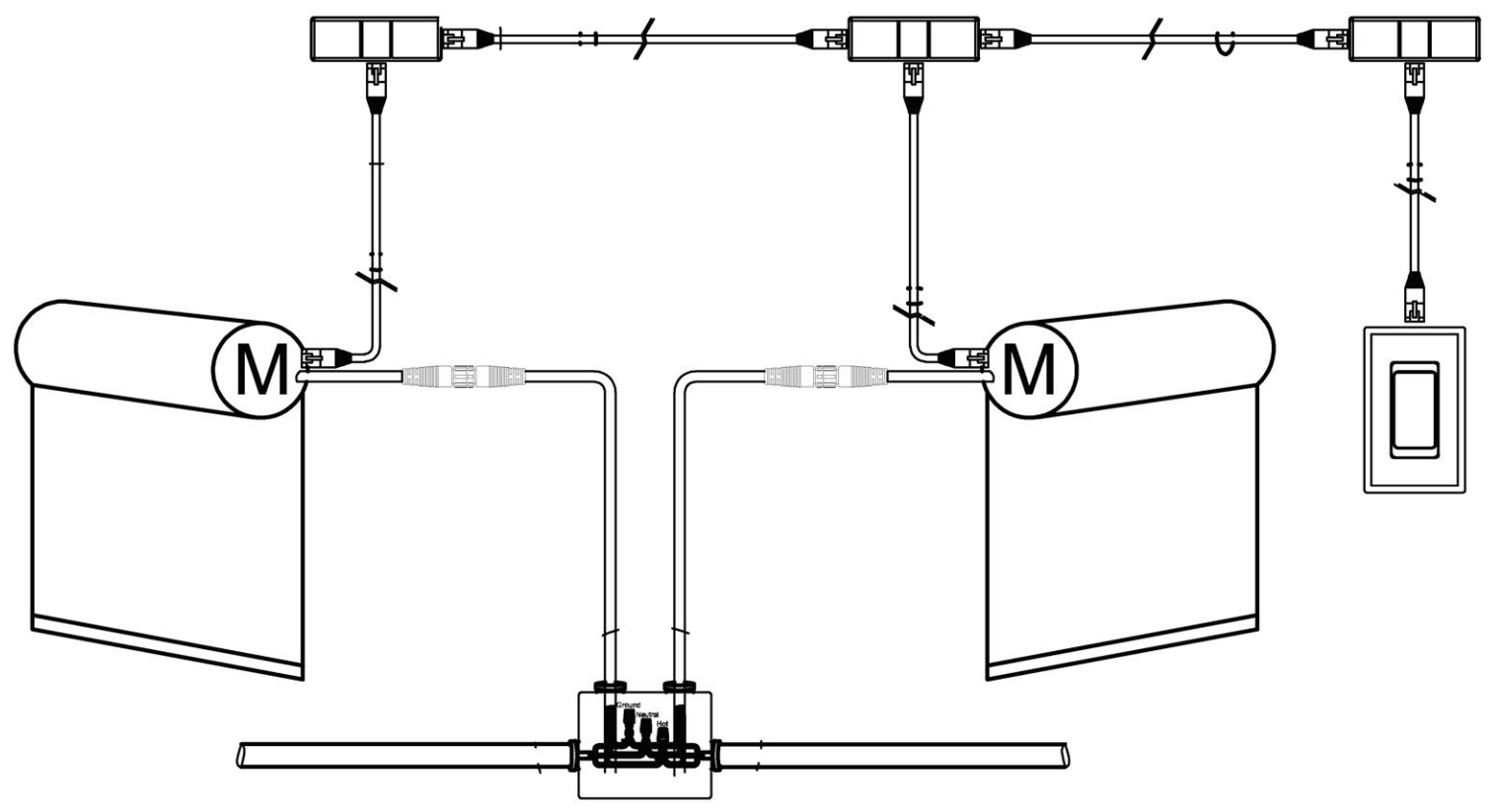


IntelliFlex I/O







LED NAME	LED COLOR	LED DISPLAY	DESCRIPTION
STATUS LED	BLUE		Power to the device
	RED		Network termination has been set to ON
NETWORK LED	YELLOW		Indicates network activity as shown in network table
	OFF	No connection to the device	
	SOLID	No other devices communicating in the network	
	BLINKING	Communicating on the network. Blink pattern shows total number of devices on the network. Short blink = 1 device. Long blink = 16 devices	



**DRAWING NAME**  
Typical Wiring Diagram

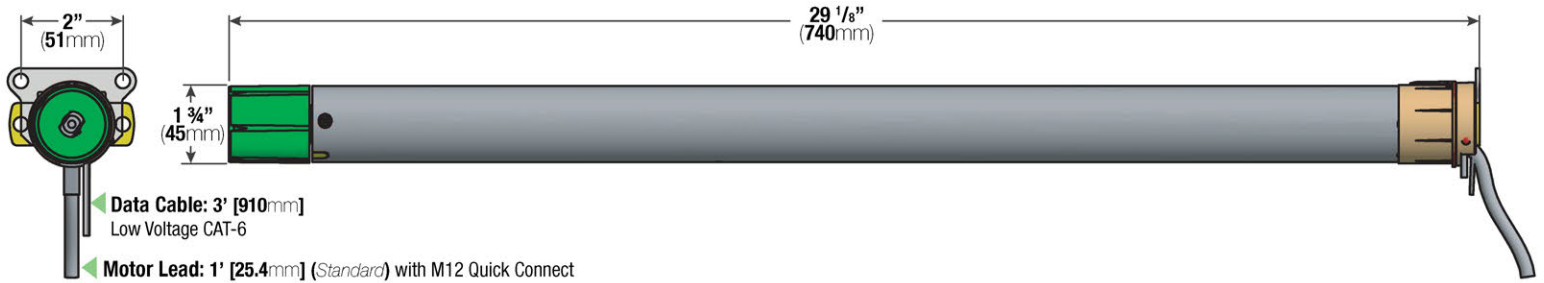
**PROJECT NAME**  
SAMPLE

**PROJECT NOTES**

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DRAPER, Inc. 411 S. Pearl Street, Spiceland, Indiana 47385    EMAIL: drapercontract@draperinc.com    PH: 765-987-7999    FAX: 866-637-5611

REVISION DESCRIPTION	MM-DD-YY	BY
○		
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**IntelliFlex I/O Motor Code Key**

**D45AE 15Nm 120VAC**

MOTOR DIAMETER: 35mm / 45mm

VOLTAGE TYPE: AC / DC

BRAKE TYPE: Electronic / Mechanical

TORQUE: 4Nm / 6Nm / 10Nm / 15Nm

SUPPLY VOLTAGE: 24VDC / 120VAC / 220VAC

**USED WITH**

Draper Motorized FlexShades®

**ROLLER DIAMETERS AVAILABLE:**

- 2" (51mm) Aluminum
- 2" (51mm) Steel
- 2 1/8" (54mm) Steel
- 3" (76mm) Steel
- 3 1/8" (79mm) Steel

**OPERATED BY**

I/O WALL SWITCH (C112.161 & C112.162)

CONTACT CLOSURE (C156.273)

RS 232/485

(Requires AV Gateway - C156.269)

RF REMOTE (C156.270)

(Requires Wireless Network Gateway - C156.268)

IR EYE (121227 & 121228)

(Requires AV Gateway - C156.269)

**SET LIMITS USING:**

MOTOR LIMIT TOOL (C202.030)

SINGLE ZONE WIRED WALL SWITCH (C112.161)

DUAL ZONE WIRED WALL SWITCH (C112.162)

**TECHNICAL SPECIFICATIONS**

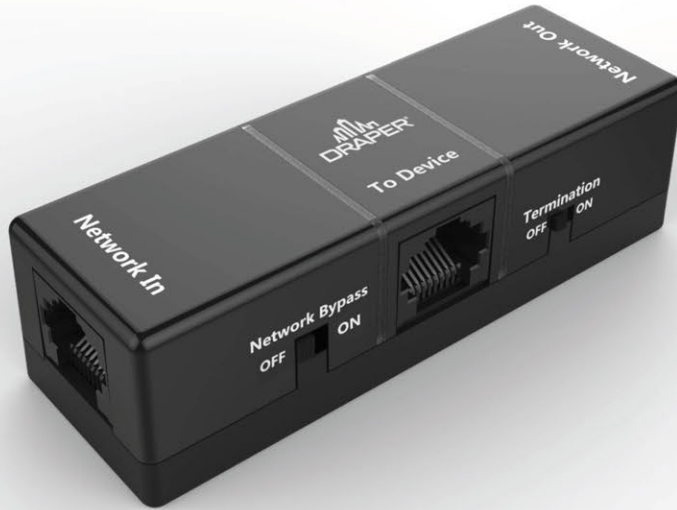
Motor:	D45AE-28/6	D45AE-28/15
Part Number:	C047.300	C047.303
Torque (Nm):	6 Nm	15 Nm
Voltage Supply:	120V AC/60Hz	
Rated Current:	1.0 Amps	
Speed:	28RPM	
Index Protection:	IP 44 (Interior Use)	
Thermal Protection:	4 Minutes	
Insulation Class:	Class 1 for 120V AC	
Sound Level:	42dBA	
Limit Switch Type:	Electronic	
Wiring:	Parallel Wiring allowed in accordance with NEC and local electrical codes	
High Voltage Motor Leads:	6' (182cm) High Voltage	
High Voltage Plug Type:	M-12 Quick Connect	
Low Voltage Lines:	3' (91cm) Low Voltage CAT 6	
UL Certifications:	UL325 & CSA C22.2 No. 247	

**Overview**

The Network Device Connector (NDC) is used to connect IntelliFlex I/O devices into a network. It distributes both power and communications between devices.

**Features**

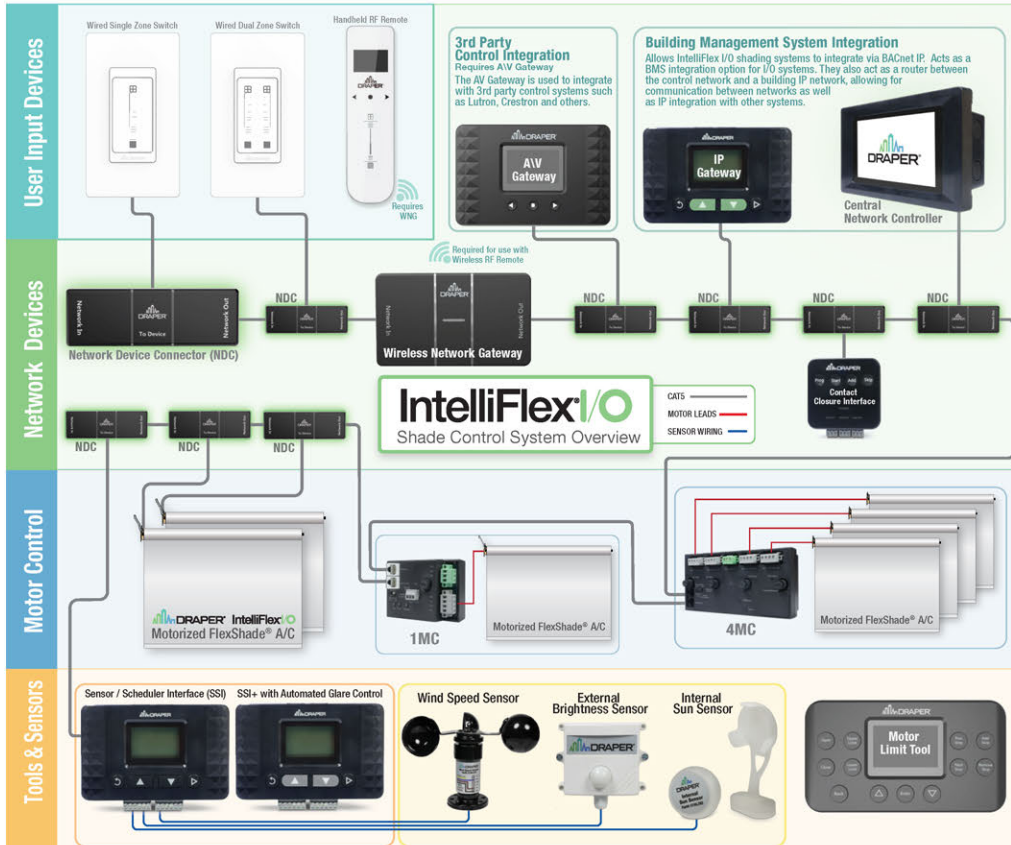
- LED Indicators indicate network status
- Built-In terminating resistor
- Network bypass switch for troubleshooting



**Technical Specifications - Network Device Connector**

Material:	ABS plastic
Operating Temp:	Ambient
Dimensions:	3 3/8" x 2" x 1 1/16" 90 x 31 x 27mm
Mounting:	Mounting Hardware Provided
Shipping Weight:	1 lb. 0.45 kg
Approved for use in plenum spaces	
Indoor Use Only	

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



IntelliFlex I/O Compatible Components	Part Number
Single Zone Wired Wall Switch (S1)	C112.161
Dual Zone Wired Wall Switch (S2)	C112.162
Handheld RF Remote (RFR)	C156.270
IR Transmitter and Receiver (IRT/R)	121227
IR Transmitter (IRT)	121228
Network Device Connector (NDC)	C156.267
Wireless Network Gateway (WNG)	C156.268
AV Gateway (AVG)	C156.269
Sensor/Scheduler Interface (SSI)	C156.272
SSI w/ Automated glare control (SSI+)	C156.304
Contact Closure Interface (CCI)	C156.273
Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305
1 Motor Controller w/enclosure (1MC)	C156.285SA
1 Motor Controller (1MC)	C156.285
4 Motor Controller w/enclosure (4MC)	C156.286SA
Motor Limit Tool (MLT)	C202.030
IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

**Overview**

The Motor Limit Tool is used to program the limits, operating direction and preset stops for individual or networks of Draper intelligent motors.

**Features**

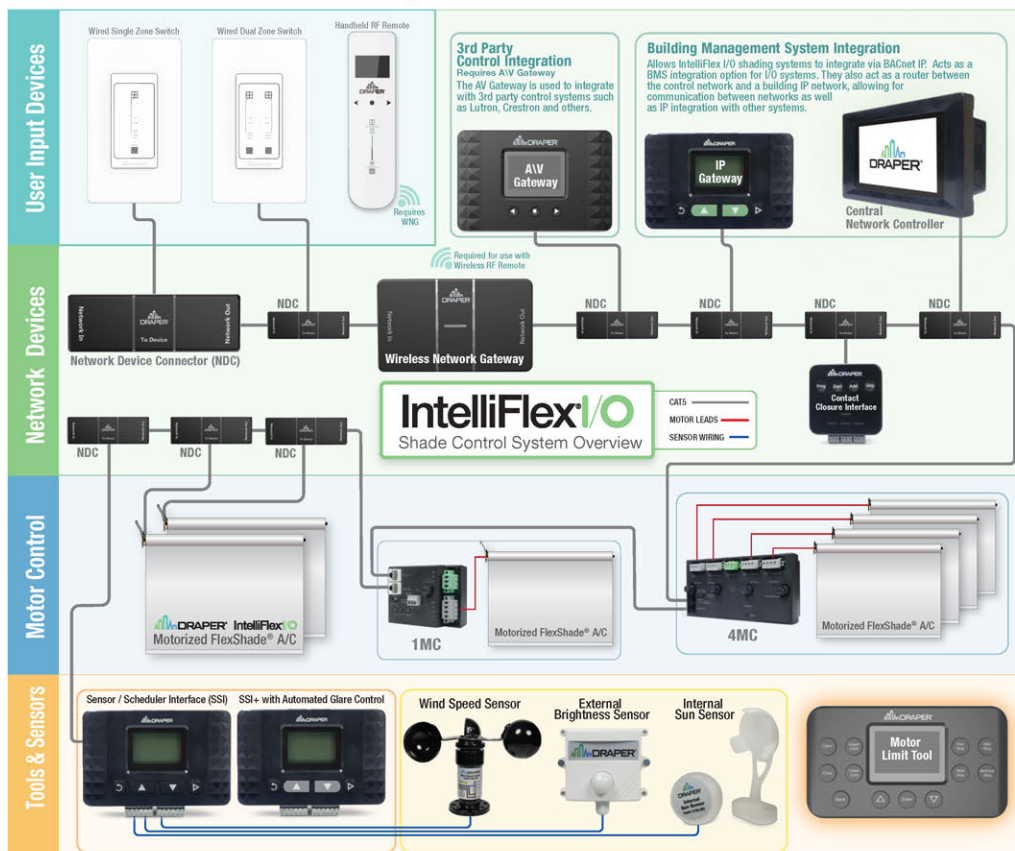
- Can be connected to an individual motor or to the network to program all motors at once.
- LCD display gives feedback to the user to make the process easier.
- Motor limits and stops can be copied and pasted to other motors in the network.
- Allows the user to factory reset the network back to the default state.



**Technical Specifications - Motor Limit Tool**

Material:	ABS plastic
Operating Temp:	Ambient
Dimensions:	5 1/8" x 2 7/8" x 1 1/8" 131 x 73 x 28mm
Shipping Weight:	1 lb. 0.45 kg
Indoor Use Only	

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



**IntelliFlex I/O Compatible Components**

	Part Number
<b>User Input Devices</b>	Single Zone Wired Wall Switch (S1) C112.161
	Dual Zone Wired Wall Switch (S2) C112.162
	Handheld RF Remote (RFR) C156.270
	IR Transmitter and Receiver (IRT/R) 121227
	IR Transmitter (IRT) 121228
<b>Network Devices</b>	Network Device Connector (NDC) C156.267
	Wireless Network Gateway (WNG) C156.268
	AV Gateway (AVG) C156.269
	Sensor/Scheduler Interface (SSI) C156.272
	SSI w/ Automated glare control (SSI+) C156.304
	Contact Closure Interface (CCI) C156.273
	Central Network Controller (CNC) C156.271
	IP Gateway (IPG) C156.305
<b>Motor Control</b>	1 Motor Controller w/enclosure (1MC) C156.285SA
	1 Motor Controller (1MC) C156.285
	4 Motor Controller w/enclosure (4MC) C156.286SA
<b>Tools</b>	Motor Limit Tool (MLT) C202.030
	IntelliFlex I/O Installation Kit (IO-Kit) C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

**C112.161**

**Overview**

The IntelliFlex I/O Single Zone Wall Switch is a smart user input device that can be customized to operate roller shades, venetian blinds, or send a signal to a third-party Building Management system via the IntelliFlex I/O network. The I/O switch can be programmed to control a single system or zone, moving it to any position with a single touch. Swipe gestures are also recognized and quickly move the shades to the fully open or closed positions. Power for the switch is provided through the IntelliFlex I/O network using a single Ethernet cable for power and communication. A zone can be configured to control any number of shades on an IntelliFlex I/O network using the onboard programming buttons, without rewiring or the use of external configuration devices. Integrated LEDs provide users real time system status, allowing them to know when the switch is pressed, motors are in operation, or when the switch is rendered inactive due to other system priorities.

**Features**

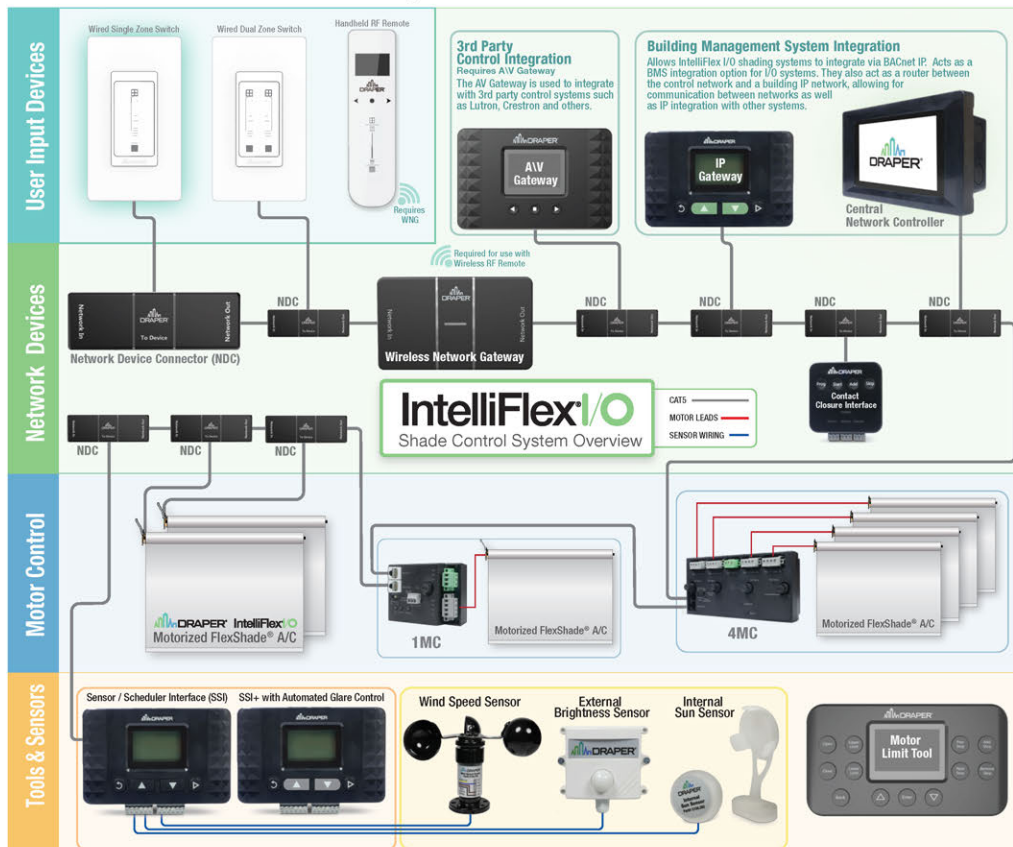
- Control any number of motors in an IntelliFlex I/O network.
- Can be used with any number of intermediate stops, or no stops at all.
- Integrated LEDs provide system status to users.
- Standard Decora size and fits into any standard single gang box.



**Technical Specifications - Single Zone Wired Wall Switch**

Input Power:	24V DC
Material:	ABS plastic
Operating Temp:	Ambient
Dimensions:	4 1/8" x 1" x 7/8"      105 x 45 x 22mm
Mounting:	Single Gang
Shipping Weight:	2lb.      0.9 kg
	Indoor Use Only
	NDC Required (included)

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



IntelliFlex I/O Compatible Components		Part Number
User Input Devices	Single Zone Wired Wall Switch (S1)	C112.161
	Dual Zone Wired Wall Switch (S2)	C112.162
	Handheld RF Remote (RFR)	C156.270
	IR Transmitter and Receiver (IRT/R)	121227
Network Devices	IR Transmitter (IRT)	121228
	Network Device Connector (NDC)	C156.267
	Wireless Network Gateway (WNG)	C156.268
	AV Gateway (AVG)	C156.269
	Sensor/Scheduler Interface (SSI)	C156.272
	SSI w/ Automated glare control (SSI+)	C156.304
	Contact Closure Interface (CCI)	C156.273
Central Network Controller (CNC)	C156.271	
Motor Control	IP Gateway (IPG)	C156.305
	1 Motor Controller w/enclosure (1MC)	C156.285SA
	1 Motor Controller (1MC)	C156.285
Tools	4 Motor Controller w/enclosure (4MC)	C156.286SA
	Motor Limit Tool (MLT)	C202.030
	IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

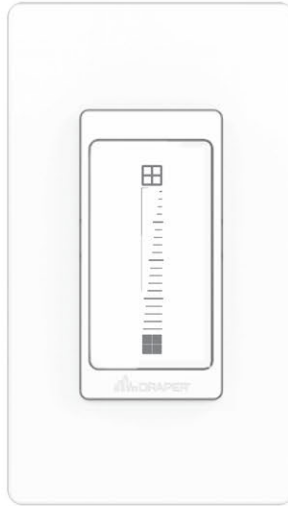
For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

**Overview**

The IntelliFlex I/O Dual Zone Wall Switch is a smart user input device that can be customized to operate roller shades, venetian blinds, or send a signal to a third-party Building Management system via the IntelliFlex I/O network. The I/O switch can be programmed to control two individual systems or zones, moving them to any position with a single touch. Swipe gestures are also recognized and quickly move the shades to the fully open or closed positions. Power for the switch is provided through the IntelliFlex I/O network using a single Ethernet cable for power and communication. Each zone can be configured to control any number of shades on an IntelliFlex I/O network using the onboard programming buttons, without rewiring or the use of external configuration devices. Integrated LEDs provide users real time system status, allowing them to know when the switch is pressed, motors are in operation, or when the switch is rendered inactive due to other system priorities.

**Features**

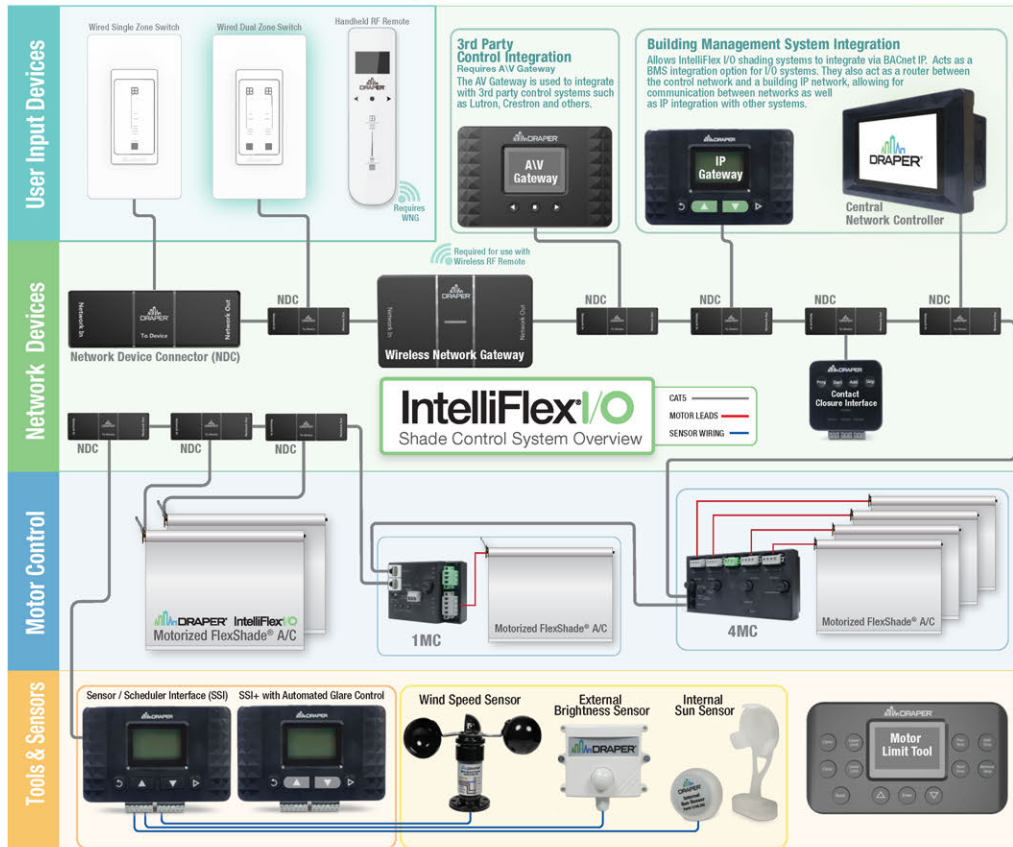
- Two independent control zones
- Control any number of motors in an IntelliFlex I/O network.
- Can be used with any number of intermediate stops, or no stops at all.
- Integrated LEDs provide system status to users.
- Standard Decora size and fits into any standard single gang box.



**Technical Specifications - Dual Zone Wired Wall Switch**

Input Power:	24V DC
Material:	ABS plastic
Operating Temp:	Ambient
Dimensions:	4 1/8" x 1" x 7/8"      105 x 45 x 22mm
Mounting:	Single Gang
Shipping Weight:	2lb.      0.9 kg
	Indoor Use Only
	NDC Required (included)

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



IntelliFlex I/O Compatible Components	Part Number
Single Zone Wired Wall Switch (S1)	C112.161
Dual Zone Wired Wall Switch (S2)	C112.162
Handheld RF Remote (RFR)	C156.270
IR Transmitter and Receiver (IRT/R)	121227
IR Transmitter (IRT)	121228
Network Device Connector (NDC)	C156.267
Wireless Network Gateway (WNG)	C156.268
AV Gateway (AVG)	C156.269
Sensor/Scheduler Interface (SSI)	C156.272
SSI w/ Automated glare control (SSI+)	C156.304
Contact Closure Interface (CCI)	C156.273
Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305
1 Motor Controller w/enclosure (1MC)	C156.285SA
1 Motor Controller (1MC)	C156.285
4 Motor Controller w/enclosure (4MC)	C156.286SA
Motor Limit Tool (MLT)	C202.030
IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).



**Overview**

The AV Gateway is used to integrate with 3rd party control systems such as Lutron, Crestron and others.

**Features**

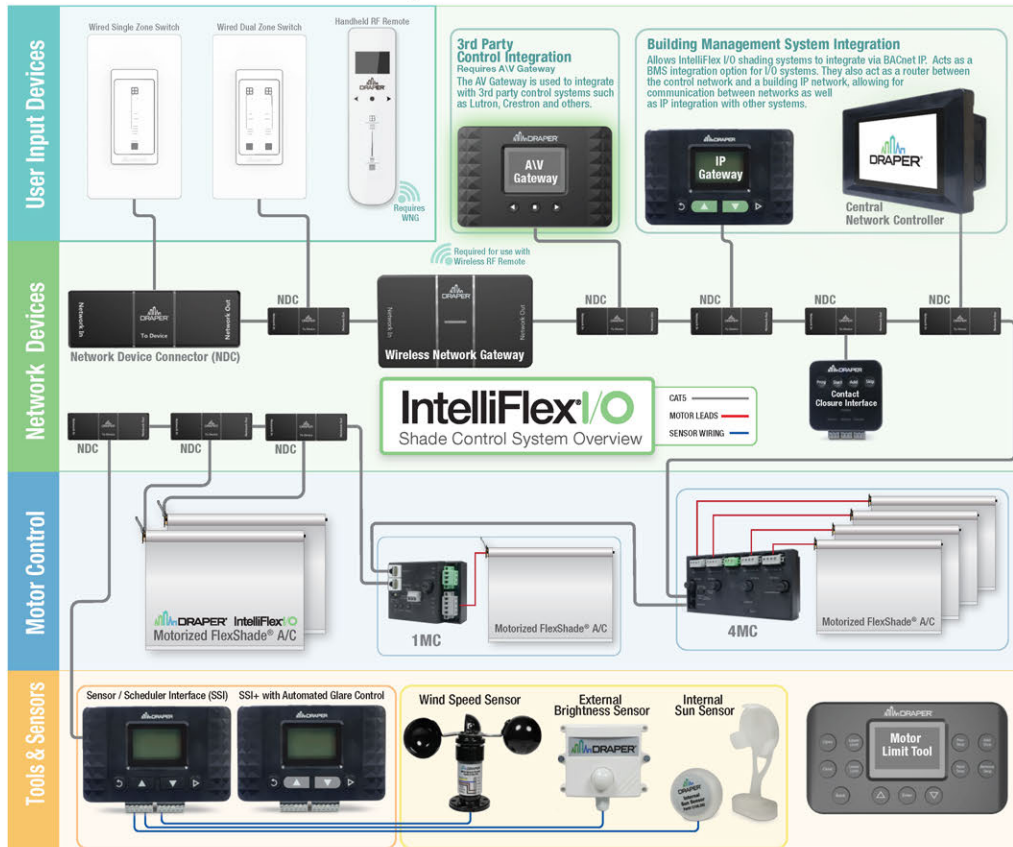
- Supports RS-232 and RS-485
- 6 Contact closure inputs
- Low voltage trigger
- IR receiver input
- LCD display allows for commissioning of serial groups



**Technical Specifications - AV Gateway**

Material:	ABS plastic	
Operating Temp:	Ambient	
Dimensions:	4 7/8" x 3" x 1"	124 x 83 x 32m
Mounting:	Mounting Hardware Provided	
Shipping Weight:	1 lb.	0.45 kg
	Approved for use in plenum spaces	
	Indoor Use Only	
	NDC Required (included)	
	Optional Power Supply: (C103.152)	

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



**IntelliFlex I/O Compatible Components**

	Part Number
<b>User Input Devices</b>	
Single Zone Wired Wall Switch (S1)	C112.161
Dual Zone Wired Wall Switch (S2)	C112.162
Handheld RF Remote (RFR)	C156.270
IR Transmitter and Receiver (IRT/R)	121227
IR Transmitter (IRT)	121228
<b>Network Devices</b>	
Network Device Connector (NDC)	C156.267
Wireless Network Gateway (WNG)	C156.268
AV Gateway (AVG)	C156.269
Sensor/Scheduler Interface (SSI)	C156.272
SSI w/ Automated glare control (SSI+)	C156.304
Contact Closure Interface (CCI)	C156.273
Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305
<b>Motor Control</b>	
1 Motor Controller w/enclosure (1MC)	C156.285SA
1 Motor Controller (1MC)	C156.285
4 Motor Controller w/enclosure (4MC)	C156.286SA
<b>Tools</b>	
Motor Limit Tool (MLT)	C202.030
IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

**C156.305**

**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.

**Features**

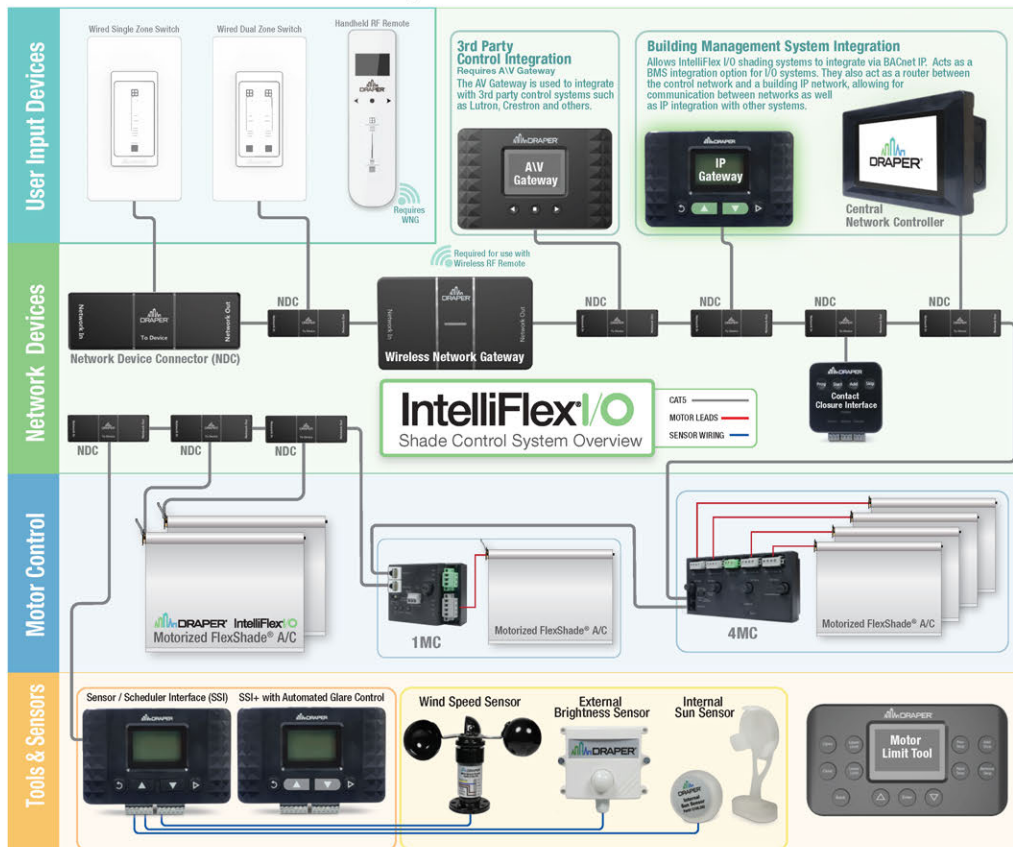
- Allows any number of IntelliFlex I/O networks to be connected together
- Built-in 2 port network switch provides flexible installation options
- Buttons and screen on-board for easy configuration



**Technical Specifications - IP Gateway**

Material:	ABS plastic	
Operating Temp:	Ambient	
Dimensions:	4 7/8" x 3" x 1"	124 x 83 x 32mm
Mounting:	Mounting Hardware Provided	
Shipping Weight:	1 lb.	0.45 kg
	Indoor Use Only	
	NDC Required (included)	

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



**IntelliFlex I/O Compatible Components**

	Part Number
<b>User Input Devices</b>	
Single Zone Wired Wall Switch (S1)	C112.161
Dual Zone Wired Wall Switch (S2)	C112.162
Handheld RF Remote (RFR)	C156.270
IR Transmitter and Receiver (IRT/R)	121227
IR Transmitter (IRT)	121228
<b>Network Devices</b>	
Network Device Connector (NDC)	C156.267
Wireless Network Gateway (WNG)	C156.268
AV Gateway (AVG)	C156.269
Sensor/Scheduler Interface (SSI)	C156.272
SSI w/ Automated glare control (SSI+)	C156.304
Contact Closure Interface (CCI)	C156.273
Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305
<b>Motor Control</b>	
1 Motor Controller w/enclosure (1MC)	C156.285SA
1 Motor Controller (1MC)	C156.285
4 Motor Controller w/enclosure (4MC)	C156.286SA
<b>Tools</b>	
Motor Limit Tool (MLT)	C202.030
IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

**Overview**

The IntelliFlex I/O Sensor / Scheduler Interface allows up to 4 sensors to be added to an IntelliFlex I/O network. Includes built-in support for brightness, wind and precipitation sensors as well as pyranometers. Also provided support for up to 8 scheduled override events. Configuration is done using on-board buttons and LCD display.

**Features**

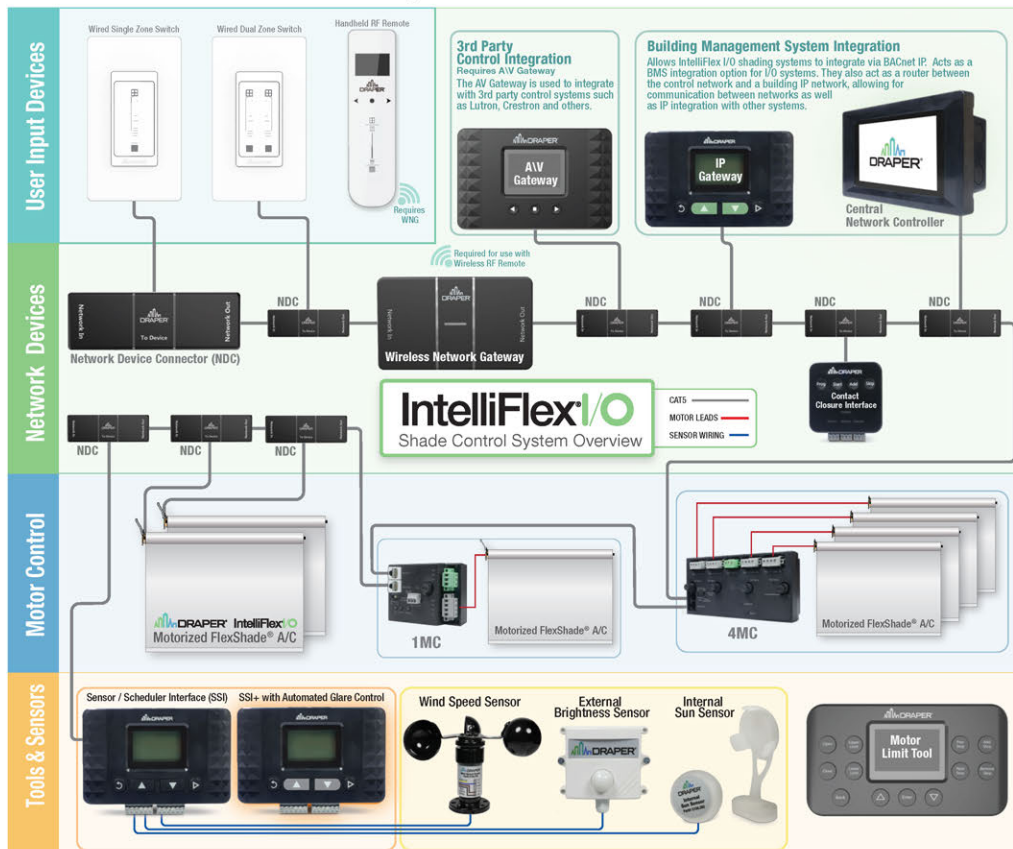
- Supports 0-10V, 4-20mA, photodiode and pulse sensors
- Simple configuration using built-in buttons and LCD display
- Scheduled events can be configured to run on any combination of days of the week
- External power input for sensors provides support for any sensor power requirements



**Technical Specifications - Sensor/Scheduler Interface**

Material:	ABS plastic
Operating Temp:	Ambient
Dimensions:	4 7/8" x 3 1/4" x 1 1/4" 124 x 83 x 32m
Mounting:	Mounting Hardware Provided
Shipping Weight:	1 lb. 0.45 kg
	Indoor Use Only
	NDC Required (included)
	Optional Power Supply: (C103.154)

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



IntelliFlex I/O Compatible Components	Part Number
Single Zone Wired Wall Switch (S1)	C112.161
Dual Zone Wired Wall Switch (S2)	C112.162
Handheld RF Remote (RFR)	C156.270
IR Transmitter and Receiver (IRT/R)	121227
IR Transmitter (IRT)	121228
Network Device Connector (NDC)	C156.267
Wireless Network Gateway (WNG)	C156.268
AV Gateway (AVG)	C156.269
Sensor/Scheduler Interface (SSI)	C156.272
SSI w/ Automated glare control (SSI+)	C156.304
Contact Closure Interface (CCI)	C156.273
Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305
1 Motor Controller w/enclosure (1MC)	C156.285SA
1 Motor Controller (1MC)	C156.285
4 Motor Controller w/enclosure (4MC)	C156.286SA
Motor Limit Tool (MLT)	C202.030
IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

Overview

The IntelliFlex I/O Sensor / Scheduler Interface with automated glare control allows up to 4 sensors to be added to an IntelliFlex I/O network. Includes built-in support for brightness, wind and precipitation sensors as well as pyranometers. Also provided support for up to 8 scheduled override events. Configuration is done using on-board buttons and LCD display.

Features

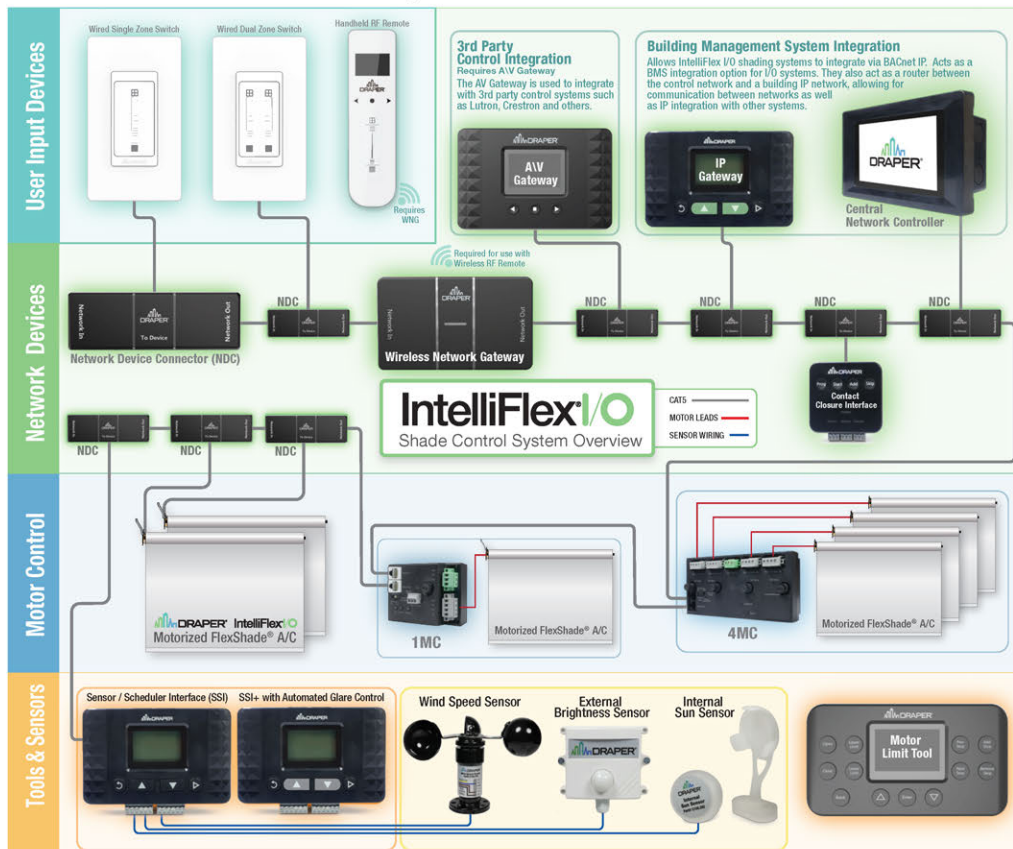
- Controls up to 8 automated glare control zones
- Supports 0-10V, 4-20mA, photodiode and pulse sensors
- Simple configuration using built-in buttons and LCD display
- Scheduled events can be configured to run on any combination of days of the week
- External power input for sensors provides support for any sensor power requirements



Technical Specifications - SSI+ with automated glare control

Material:	ABS plastic	
Operating Temp:	Ambient	
Dimensions:	4 7/8" x 3" x 1"	124 x 83 x 32m
Mounting:	Mounting Hardware Provided	
Shipping Weight:	1 lb.	0.45 kg
	Indoor Use Only	
	NDC Required (included)	
	Optional Power Supply: (C103.154)	

IntelliFlex I/O the complete control solution for Motorized FlexShades®



IntelliFlex I/O Compatible Components

	Part Number
<b>User Input Devices</b>	
Single Zone Wired Wall Switch (S1)	C112.161
Dual Zone Wired Wall Switch (S2)	C112.162
Handheld RF Remote (RFR)	C156.270
IR Transmitter and Receiver (IRT/R)	121227
IR Transmitter (IRT)	121228
<b>Network Devices</b>	
Network Device Connector (NDC)	C156.267
Wireless Network Gateway (WNG)	C156.268
AV Gateway (AVG)	C156.269
Sensor/Scheduler Interface (SSI)	C156.272
SSI w/ Automated glare control (SSI+)	C156.304
Contact Closure Interface (CCI)	C156.273
Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305
<b>Motor Control</b>	
1 Motor Controller w/enclosure (1MC)	C156.285SA
1 Motor Controller (1MC)	C156.285
4 Motor Controller w/enclosure (4MC)	C156.286SA
<b>Tools</b>	
Motor Limit Tool (MLT)	C202.030
IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit draperinc.com.

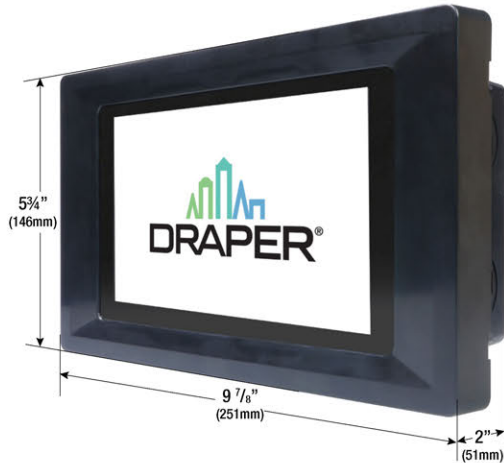
**C156.271**

**Overview**

The Central Network Controller is a touchscreen device that adds advanced functionality to a network. It also acts as a router between the control network and a building IP network, allowing for communication between networks as well as IP integration with other systems. Graphical user interfaces are provided on the local touchscreen as well as remotely accessible web interfaces.

**Features**

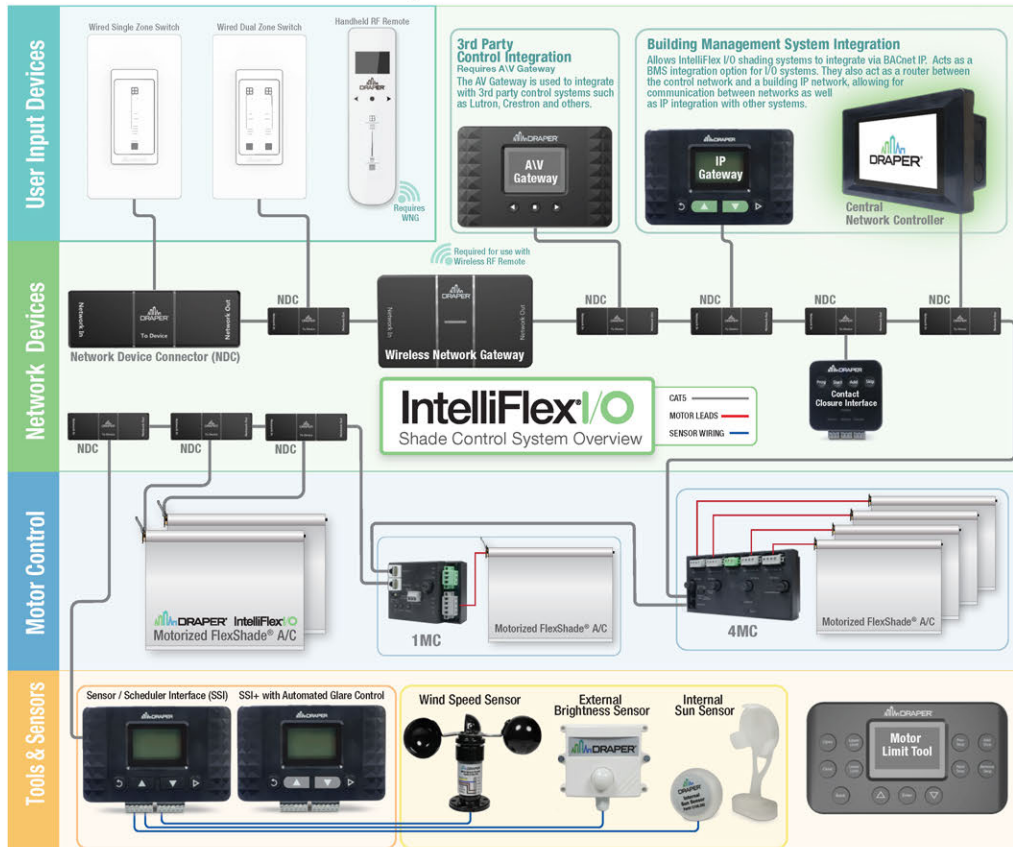
- Adds automated glare control and scheduling functionality to a network
- BACnet/IP integration
- 7" (18cm) touchscreen interface
- Interface to monitor and override network devices
- Logging of shade movements, sensor readings and user overrides



**Technical Specifications - Central Network Controller**

Input Power:	Micro USB (included)
Operating Temp:	Ambient
Dimensions:	9 7/8" x 5 3/4" x 2"      251 x 146 x 51mm
Rough Cutout:	8" x 5" x 1 3/4"      203 x 127 x 44mm
Mounting:	Mounting Hardware Provided
Shipping Weight:	5 lbs.      2.26 kg
	Indoor Use Only
	NDC Required (included)

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



**IntelliFlex I/O Compatible Components**

	Part Number
<b>User Input Devices</b>	
Single Zone Wired Wall Switch (S1)	C112.161
Dual Zone Wired Wall Switch (S2)	C112.162
Handheld RF Remote (RFR)	C156.270
IR Transmitter and Receiver (IRT/R)	121227
IR Transmitter (IRT)	121228
<b>Network Devices</b>	
Network Device Connector (NDC)	C156.267
Wireless Network Gateway (WNG)	C156.268
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<b>Motor Control</b>	
1 Motor Controller w/enclosure (1MC)	C156.285SA
1 Motor Controller (1MC)	C156.285
4 Motor Controller w/enclosure (4MC)	C156.286SA
<b>Tools</b>	
Motor Limit Tool (MLT)	C202.030
IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

### Part # C156.279

#### Overview

The External Brightness Sensor uses a silicon-blue photovoltaic detector to provide a wide range of brightness measurement, ideal for detecting cloudy or sunny conditions. Designed to be used with the IntelliFlex I/O Sensor/Schedule Interface (PN C156.272) to provide direct control of shades or as an override in a fully automatic system. The waterproof design helps to ensure reliability as an essential part of your IntelliFlex I/O solution.

#### Features

- Wide Measuring Range
- Waterproof
- Long Transmission Range and Sensitivity
- Highly Reliable

To be used with Sensor/Scheduler Interface (Part# C156.272) or the Sensor/Scheduler Interface + (Part#C156.304).

#### TECHNICAL SPECIFICATIONS

**Material:** ABS Plastic

**Dimensions:** 4.6" x 3.4" x 2.2" 117 x 86 x 58MM

**Operating Temp:** Ambient

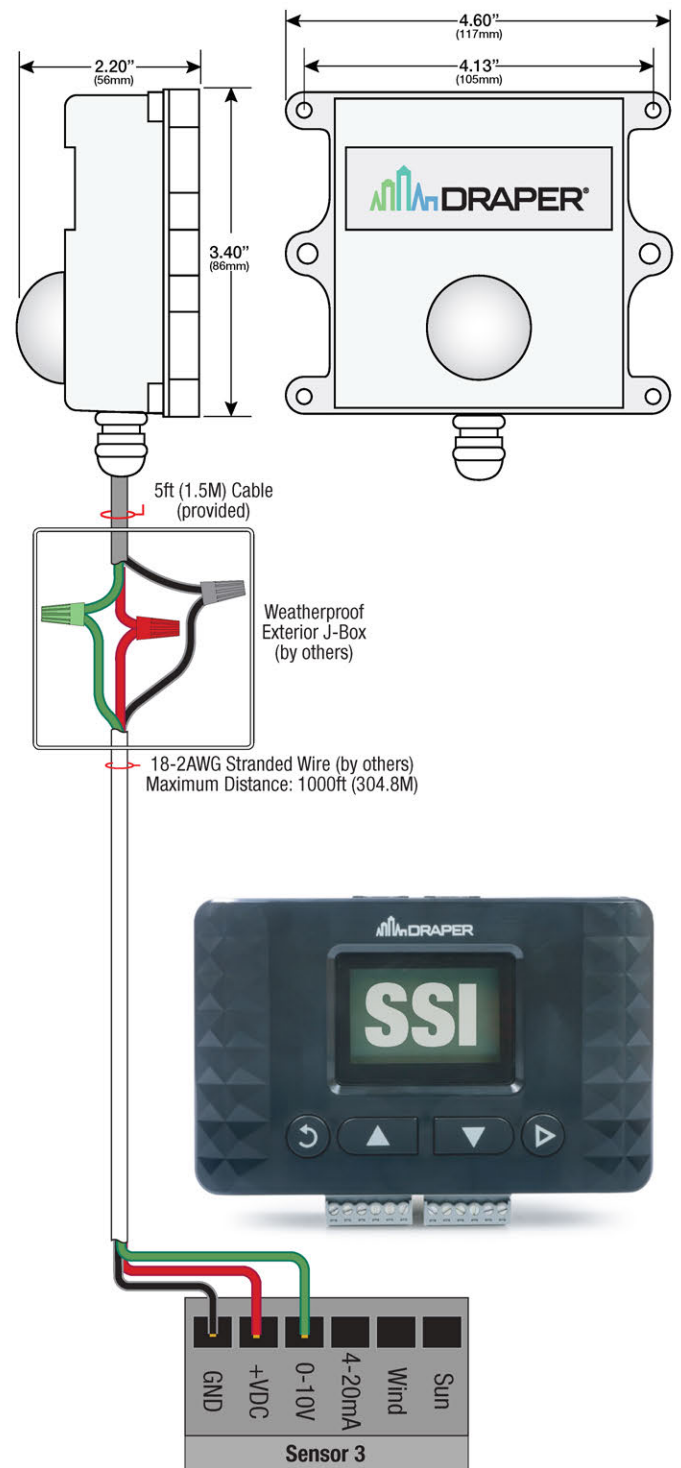
**Shipping Weight:** 1 lb. 0.45 kg

**Measurement Range:** 0-150,000 Lux

**Accuracy:** ± 5%

#### Installation

The External Brightness Sensor is to be mounted directly onto a horizontal or vertical surface using the provided screws. Alternately, the sensor can be pole mounted on a mast (by others) with 5ft (1.5M) wiring whip routed through the interior, or along the exterior of the mast. Wiring whip must terminate in a typical J-box. If the J-box is mounted to the exterior of the building it must be weatherproof.



**Overview**

The 1MC is a single motor controller that can be used with motorized roller shades, Venetian blinds and louver systems.

The 1MC can be used stand alone or part of a network. Even when networked, each 1MC can be independently operated and can be configured to respond to wall switches, RF remotes and signals from 3rd party systems. An on-board contact closure interface can be used as a local control for both networked and stand alone operation.

**Features**

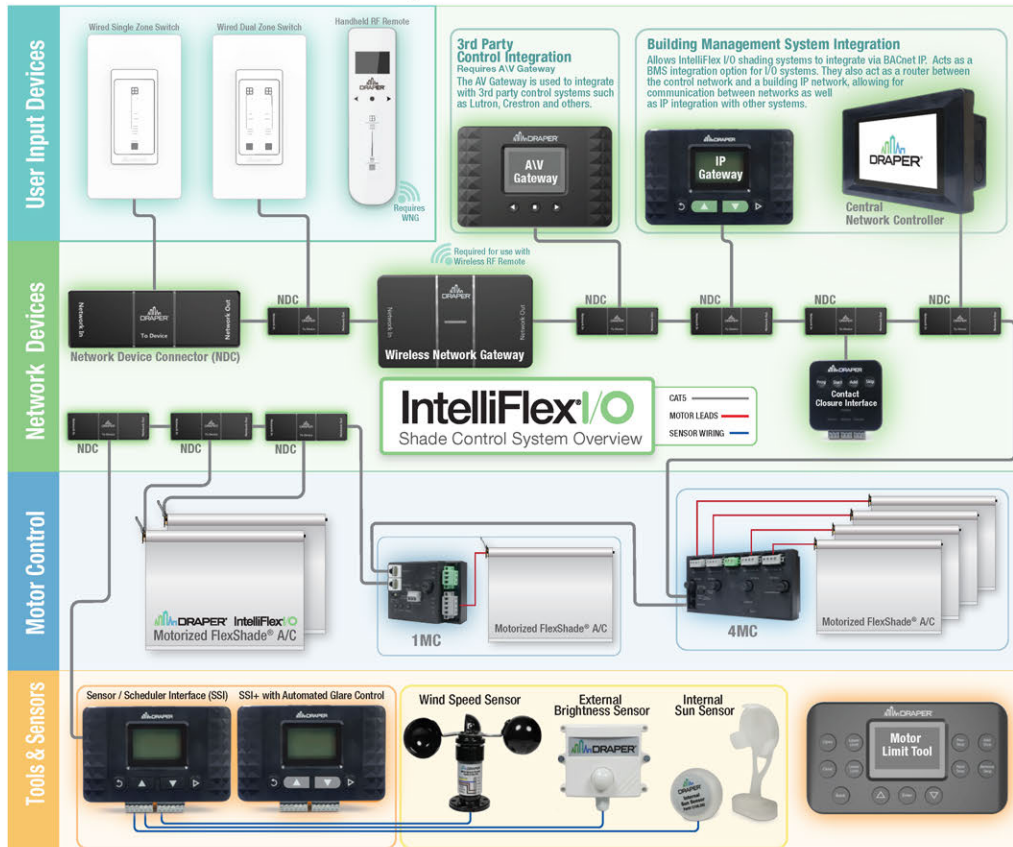
- Robust RS-485 network with built in network termination
- On-board buttons for testing and configuring motors
- Pluggable terminal blocks for easier wiring
- On-board contact closure terminal connection for local control



**Technical Specifications - Single Motor Controller**

Input Power:	110-230VAC @ 50 / 60Hz
Output Power:	Maximum 6A @ Input Power
Material:	ABS plastic
Operating Temp:	32 - 140 ° F      0 - 60° C
Dimensions:	2¾" x 3½" x 2 1/8"      70 x 90 x 54mm
Enclosure:	4" x 4" X 4"      102 x 102 x 102mm
Shipping Weight:	1 lb.      0.45 kg
Network Bus:	RS-485
	Indoor Use Only

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



IntelliFlex I/O Compatible Components		Part Number
User Input Devices	Single Zone Wired Wall Switch (S1)	C112.161
	Dual Zone Wired Wall Switch (S2)	C112.162
	Handheld RF Remote (RFR)	C156.270
	IR Transmitter and Receiver (IRT/R)	121227
	IR Transmitter (IRT)	121228
Network Devices	Network Device Connector (NDC)	C156.267
	Wireless Network Gateway (WNG)	C156.268
	AV Gateway (AVG)	C156.269
	Sensor/Scheduler Interface (SSI)	C156.272
	SSI w/ Automated glare control (SSI+)	C156.304
	Contact Closure Interface (CCI)	C156.273
	Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305	
Motor Control	1 Motor Controller w/enclosure (1MC)	C156.285SA
	1 Motor Controller (1MC)	C156.285
	4 Motor Controller w/enclosure (4MC)	C156.286SA
Tools	Motor Limit Tool (MLT)	C202.030
	IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).

**Overview**

The 4MC is a 4 motor controller that can be used with motorized roller shades, Venetian blinds and louver systems. Each port is independently operated and can be configured to respond to wall switches, RF remotes and signals from 3rd party systems.

**Features**

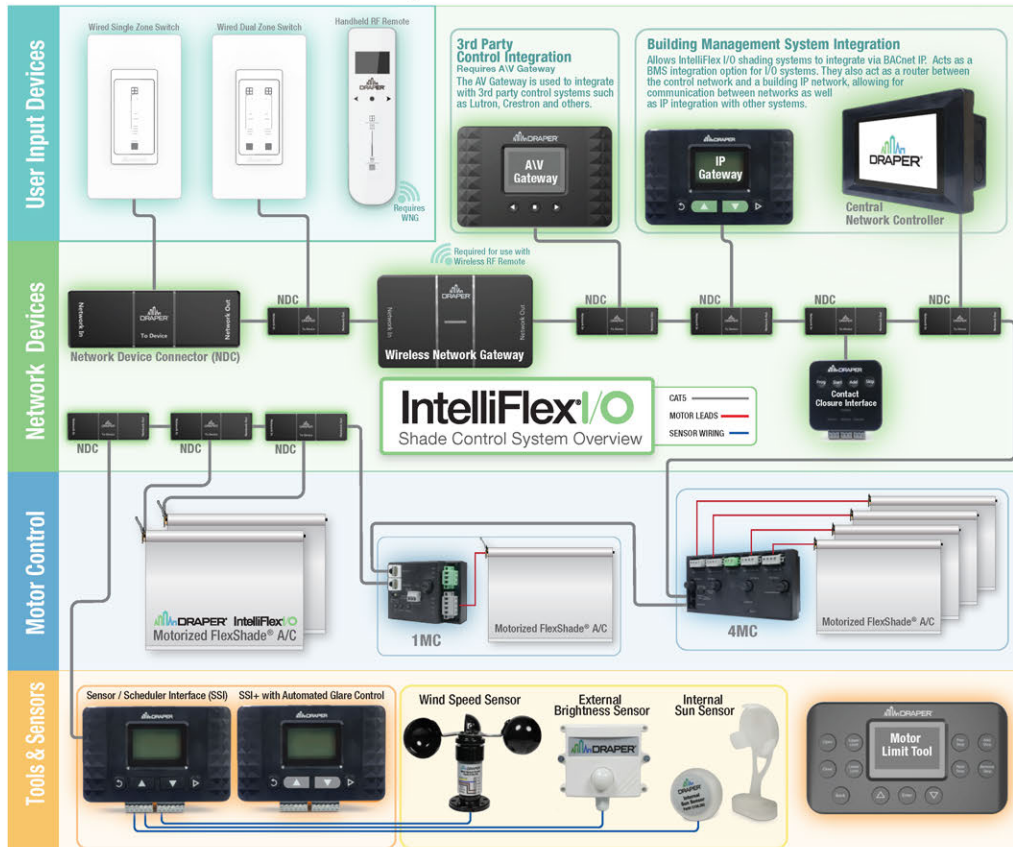
- Robust RS-485 network with built in network termination
- Pluggable terminal blocks for easier wiring



**Technical Specifications - 4 Motor Controller**

Input Power:	110-230VAC @ 50 / 60Hz	
Output Power:	Maximum 6A @ Input Power	
Material:	ABS plastic	
Operating Temp:	32 - 140 ° F	0 - 60° C
Dimensions:	3½" x 7" x 1 7/8"	89 x 178 x 48mm
Enclosure:	6" x 4" x 4"	152 x 102 x 102mm
Shipping Weight:	2 lb.	0.9 kg
Network Bus:	RS-485	
	Indoor Use Only	

**IntelliFlex I/O** the complete control solution for Motorized FlexShades®



IntelliFlex I/O Compatible Components		Part Number
User Input Devices	Single Zone Wired Wall Switch (S1)	C112.161
	Dual Zone Wired Wall Switch (S2)	C112.162
	Handheld RF Remote (RFR)	C156.270
	IR Transmitter and Receiver (IRT/R)	121227
	IR Transmitter (IRT)	121228
Network Devices	Network Device Connector (NDC)	C156.267
	Wireless Network Gateway (WNG)	C156.268
	AV Gateway (AVG)	C156.269
	Sensor/Scheduler Interface (SSI)	C156.272
	SSI w/ Automated glare control (SSI+)	C156.304
	Contact Closure Interface (CCI)	C156.273
	Central Network Controller (CNC)	C156.271
IP Gateway (IPG)	C156.305	
Motor Control	1 Motor Controller w/enclosure (1MC)	C156.285SA
	1 Motor Controller (1MC)	C156.285
	4 Motor Controller w/enclosure (4MC)	C156.286SA
Tools	Motor Limit Tool (MLT)	C202.030
	IntelliFlex I/O Installation Kit (IO-Kit)	C504.206SA

For info on other I/O compatible products, visit [draperinc.com](http://draperinc.com).



**Please check all appropriate selections and attach room schedule with verified dimensions.**

### Motorized Shade Options

Fabric Series: \_\_\_\_\_

Color Name / Number: \_\_\_\_\_

Openness Factor: \_\_\_\_\_

Please visit [Draper Fabric Options](#) for fabric colors and specifications.

### Select Fabric Orientation

- Regular Roll (from back of roller)
- Reverse Roll (from front of roller)

### Select Fabric Attachment

- Standard
- Optional Spline Attachment

### Select Slat Style

- Closed Pocket - 1" (25mm) Elliptical (standard)
- Open Pocket - 1" (25mm) Elliptical
- Small Flat Exposed Hem Bar
- Large Flat Exposed Hem Bar
- Round Exposed Hem Bar
- 5/8" (16mm) Tube
- None

### Select IntelliFlex I/O Control Options

Number of Motors: \_\_\_\_\_

Number of Single Zone Wall Switches (C112.161): \_\_\_\_\_

Number of Dual Zone Wall Switches (C112.162): \_\_\_\_\_

Number of Handheld Remotes (C156.270): \_\_\_\_\_

*A Wireless Network Gateway is required use Remote.*

Number of AV Gateways (C156.269): \_\_\_\_\_

Number of Contact Closure Interfaces (C156.273): \_\_\_\_\_

Number of Extra Network Device Connectors (NDCs): \_\_\_\_\_

*NDCs included with each motor and I/O network component that requires an NDC.*

### Include Low Voltage Network Cables?

- Yes
  - 3' (91cm) (C107.100) How many \_\_\_\_\_
  - 6' (182cm) (C107.101) How many \_\_\_\_\_
  - 12' (366cm) (C107.102) How many \_\_\_\_\_
  - 25' (762cm) (C107.103) How many \_\_\_\_\_
  - 50' (1524cm) (C107.104) How many \_\_\_\_\_
- No

### Include Commisioning Tools?

- Yes
  - Motor Limit Tool (C202.030) (How Many? \_\_\_\_\_).
- No

### Coupled Shades

- Yes (How Many Fabric Panels? \_\_\_\_\_).  
*Also indicate on room schedule.*
- No

### Select Hardware

- Brackets Only
  - Wall
  - Ceiling
- Endcaps Only
- Endcaps w/Fascia
- Surface Headbox (Fascia & Top/Back Cover)
- Headbox
  - Pocket Style Headbox
  - Type "D" Pocket w/Tile Lip (White; not available w/ 3" roller)
  - Custom Headbox
- Wall Clip
  - With Ceiling Tile Lip
  - Without Ceiling Tile Lip
- Closure Panel for Wall Clip, Type "D" Pocket or Custom Headbox
  - 1 1/2" (38mm)
  - 3" (76mm)
  - 5" (127mm) (For Wall Clip and Custom Headbox Only)
- Light Gap Reduction Hardware
  - 'L' Angle
  - 'U' Channel
  - 'H' Channel
  - Channel Liners

### Select Hardware Finish (does not apply to Type "D" Pocket)

- Clear Anodized (standard)
- White
- Bronze
- Black
- Ivory
- Custom (Contact Draper)

### Available Sizes:

WIDTH:	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
HEIGHT													
2'													
3'													
4'													
5'													
6'													
7'													
8'													
9'													
10'													
11'													
12'													
13'													
14'													

*\* Sizes requiring large endcaps/brackets will vary according to fabric.*

- Small endcaps/brackets and 2" (51mm) roller are recommended.
- Large endcaps/brackets and 3" (76mm) roller may be required.



PROJECT: \_\_\_\_\_

ARCHITECT: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

SUPPLIER: \_\_\_\_\_

DATE: \_\_\_\_\_ REVISED: \_\_\_\_\_

## Specifications

### EQUIPMENT

**INTELLIFLEX I/O 6NM AC MOTOR (C047.300):** Drive unit inside roller, 3-wire, instantly reversible, lifetime lubricated. Right hand or left hand operation selectable during programming. Adjustable electronic limit switches, thermal overload protector and electric brake. Operates on 110-120V AC 1 PH 60 HZ current. Draws 1.0 Amps. Sound level ≤ 42 dBA.

**MOTOR LIMIT TOOL (C202.030):** Used to program the limits, operating direction and preset stops for individual or networks of Draper intelligent motors.

**NETWORK DEVICE CONNECTOR (C156.267):** Used to connect IntelliFlex I/O devices into a network. Distributes both power and communications between devices.

**WIRED WALL SWITCH (SINGLE ZONE - C112.161; DUAL ZONE - C112.162):** Intelligent low voltage control device providing in-wall user interface. Communicates directly with intelligent motors. Uses priority based command structure which allows multiple switches to have different levels of authority.

**WIRELESS REMOTE (C156.270):** Display allows up to 32 channels. Touch control to position shades. Can be used as a simple commissioning tool.

**WIRELESS NETWORK GATEWAY (C156.268):** Required to use the wireless remote in a wired network.

**AIW GATEWAY (C156.269):** Used to integrate with 3rd party control systems. Supports RS-232 and RS-485. Contact closure inputs. Low voltage trigger. IR receiver input. LCD display allows for commissioning of serial groups.

**CONTACT CLOSURE INTERFACE (C156.273):** Used to connect simple switches or other contact closure devices into the network. Up to 6 contacts. Push buttons for commissioning.

### HARDWARE

**ROLLERS:** Extruded aluminum or steel. Roller assembly easily removable.

**OPTIONAL FABRIC ATTACHMENT:** Fabric attached to roller tube with spline fabric attachment method. Allows for removal of fabric panel without removal of roller assembly.

**MOUNTING BRACKETS:** 1018 plated steel stamping. **2 SIZES:** 1 5/8" (41mm) and 2 1/4" (57mm). Styles for mounting to wall, ceiling, or jamb. Brackets do not require additional adapters.

**ROLLER IDLER ASSEMBLY:** Type 6% injected molded nylon and a zinc-plated cold rolled steel pin. Sliding pin for easy installation and removal of the roller.

**SLAT:** Aluminum, min. 1/8" x 1" (3 x 25mm), encased in heat sealed hem.

**ENDCAPS:** 1028 steel stamping. **2 SIZES:** 3 1/4" x 3 3/4" (83x95mm) and 4 1/2" x 4 1/2" (114x114mm). Complete with adapter roller bracket. Installs to wall, ceiling, or jamb. Accepts fascia or headbox.

**ENDCAP COVERS:** Plastic covers snap onto endcaps. Available in silver, ivory, bronze, black or white to match fascia.

**FASCIA:** "L" cover of extruded aluminum, .060 (1.5mm) wall. Fascia snaps onto endcaps. Continuous fascia available with coupled units. Clear Anodized (standard), black, white, ivory, or bronze powder coat finish available.

**SURFACE HEADBOX:** Consists of fascia, L-shaped back/top cover. Endcaps slide into extrusion without exposed fasteners.

**POCKET HEADBOX:** Optional, for pocket installation, includes a U-shaped back/top/front cover with removable bottom closure panel. **SMALL SIZE:** 3 7/8" x 3 15/16" (98x100mm). **LARGE SIZE:** 4 11/16" x 4 11/16" (119x119mm). Some exposed fasteners required.

**TYPE D POCKET:** Type D Shade Pocket, of extruded aluminum for perimeter installation. Accepts FlexShades installed with ceiling brackets. Finished in white paint. 5" x 5 3/8" x .125" (127x136x3mm) with 7/8" (22mm) tile support lip & removable bottom closure.

**LIGHT GAP REDUCTION HARDWARE:** Extruded Aluminum. Accepts edges of fabric, prevents light gaps. Interior of channel provides for use of flat head screws.

**"L" ANGLE:** 3/4" x 1" x 12'3" (1.9x2.5x373cm); 1" x 2 3/4" x 16' (2.5x7x488cm) or cut to length.

**"U" CHANNEL:** 1" x 2 1/2" x 16' (2.5x76x488cm) or cut to length.

**"H" CHANNEL:** 1" x 5" x 16' (2.5x12.7x488cm) or cut to length.

**COUPLER ASSEMBLY:** Zinc plated steel Coupler Shafts shall be retractable into coupler assembly for ease of installation and to lock units in place. Zinc plated steel coupler brackets shall have spherical OD bearings allowing for misalignment of the mounting brackets of up to 1.25-degrees. One motor or crank operator to drive additional shade rollers. Patent pending.

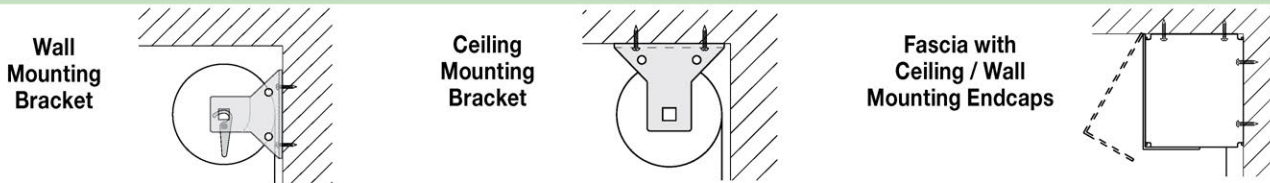
**PATENT INFORMATION:** available at <http://www.draperinc.com/legal/patents/>

**DOWNLOADABLE 3-PART SPECIFICATIONS:** available at [www.draperinc.com](http://www.draperinc.com).

**Please note:** Dimensions of rollers, operators and hardware at manufacturer's discretion.

## Hardware Selections

**Please Note:** Brackets and endcaps have the attachment points for mounting a Motorized FlexShade. Optional fascia and headbox have a thickness of 1/16" (1.5mm).

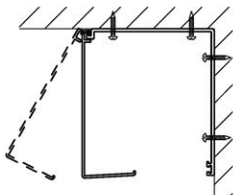


## Headbox Installation Options

### Surface Headbox

Consists of:

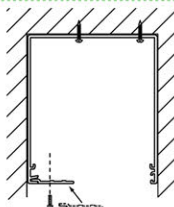
- Fascia,
- Back/Top Cover
- Ceiling/Wall Endcaps



### Pocket Style Headbox

Consists of:

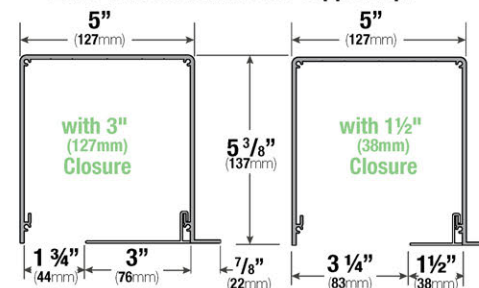
- Extruded pocket
- Bottom closure panel
- Ceiling/Wall Endcaps



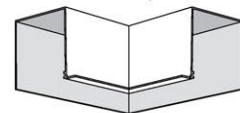
### Type D Pocket

Consists of:

- Extruded aluminum pocket.
- A lip supports lay-in ceiling.
- Pre-welded corners and ends available.
- Ends with or without tile support lip.

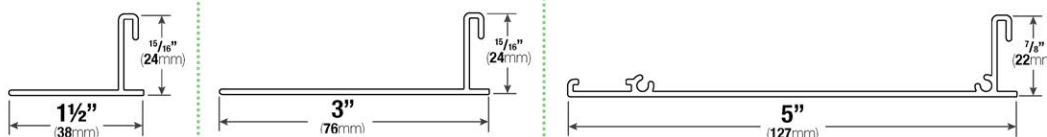


Typical pre-welded corner section (not to scale)

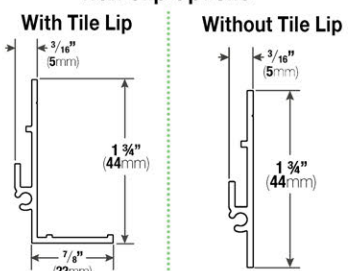


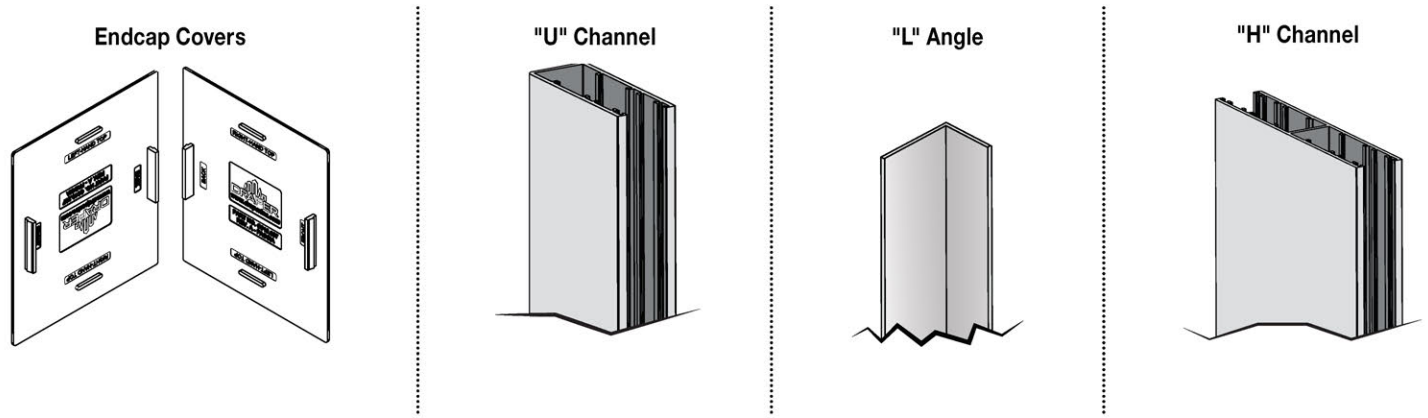
## Closure & Wall Clip Options

### Closure Options



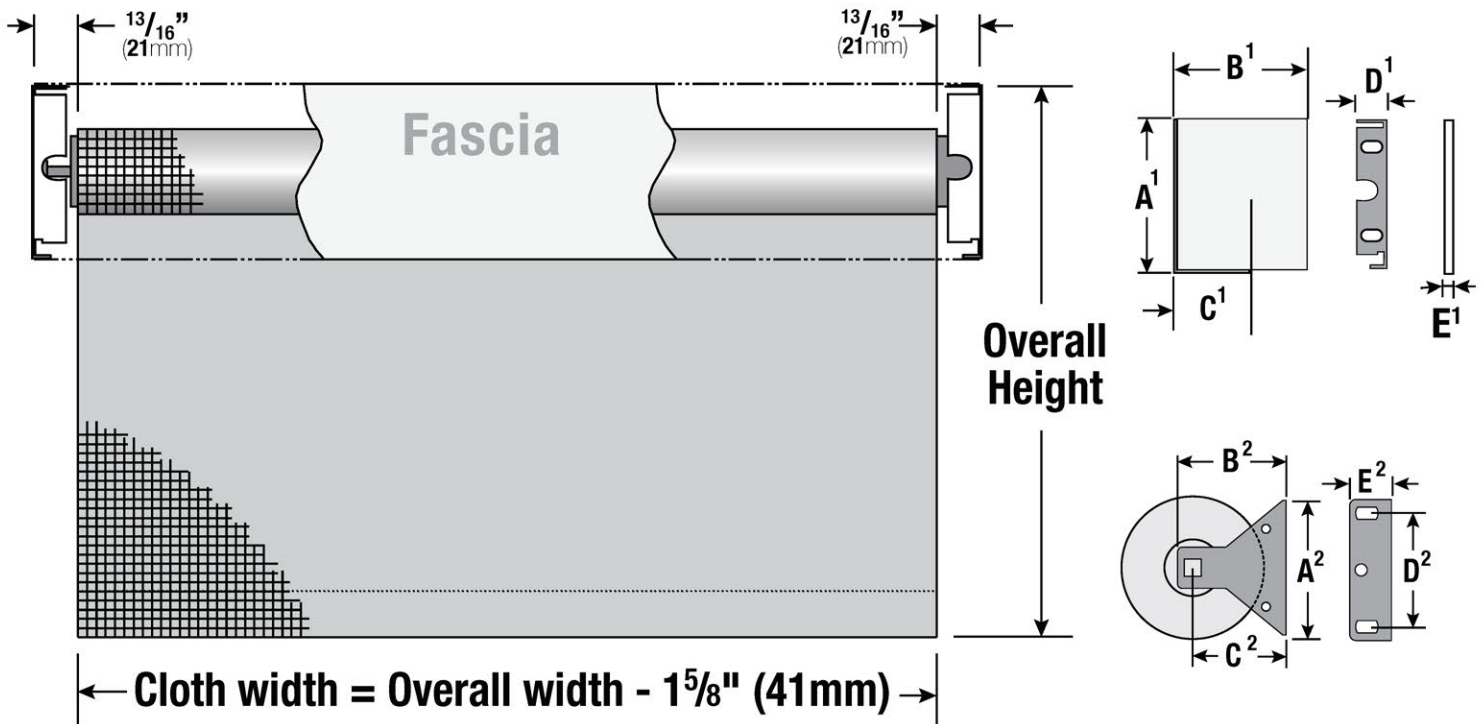
### Wall Clip Options





## Motorized FlexShade Dimensions

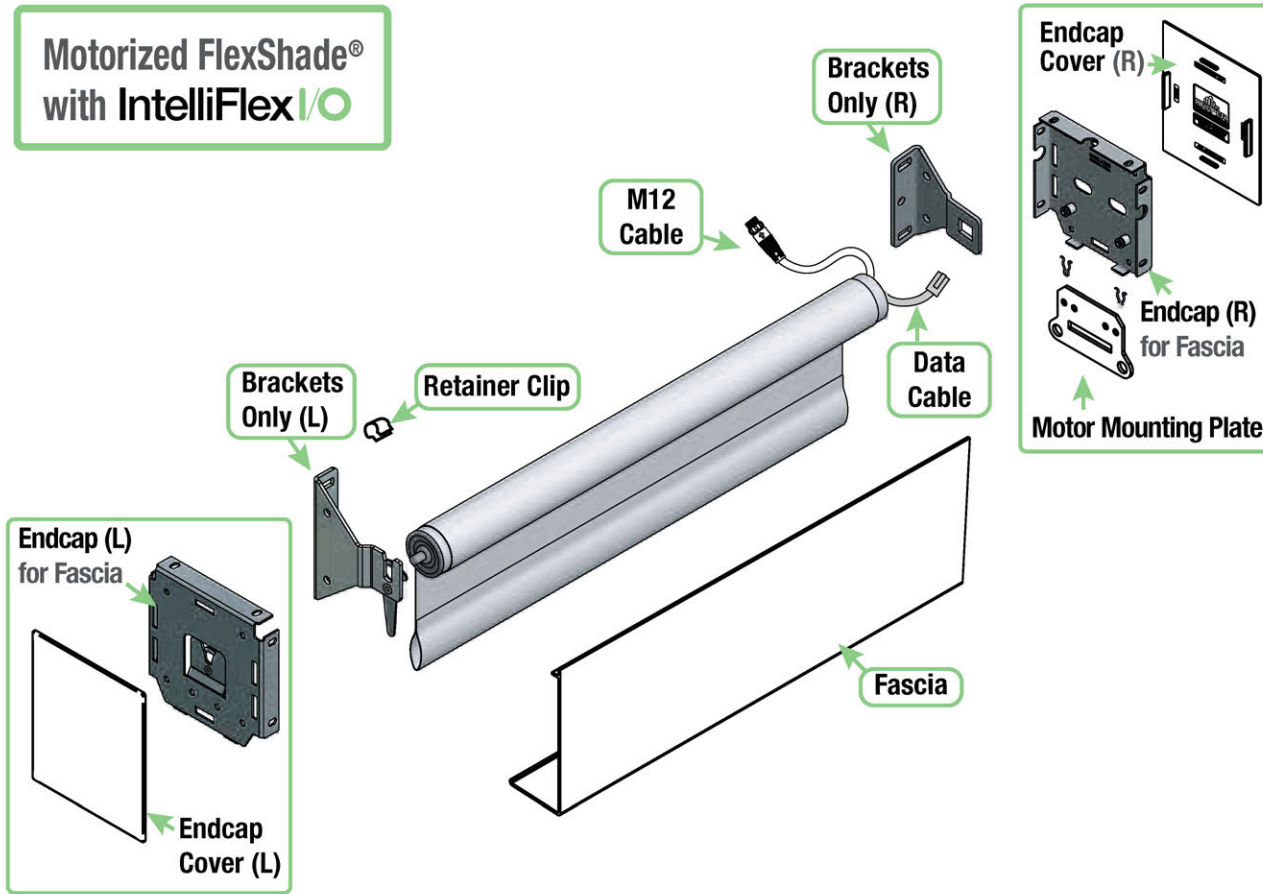
Fascia Overall Width includes plastic endcap covers. Pair adds 1/8" (3mm) to Overall Width of Small Hardware; 3/16" (5mm) to Overall Width of Large Hardware).



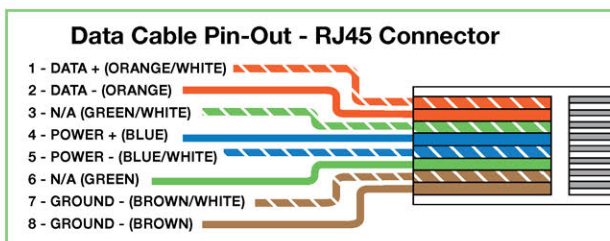
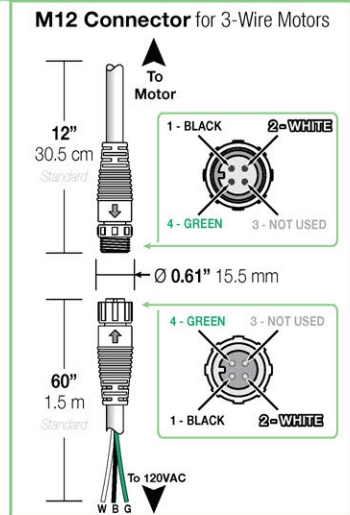
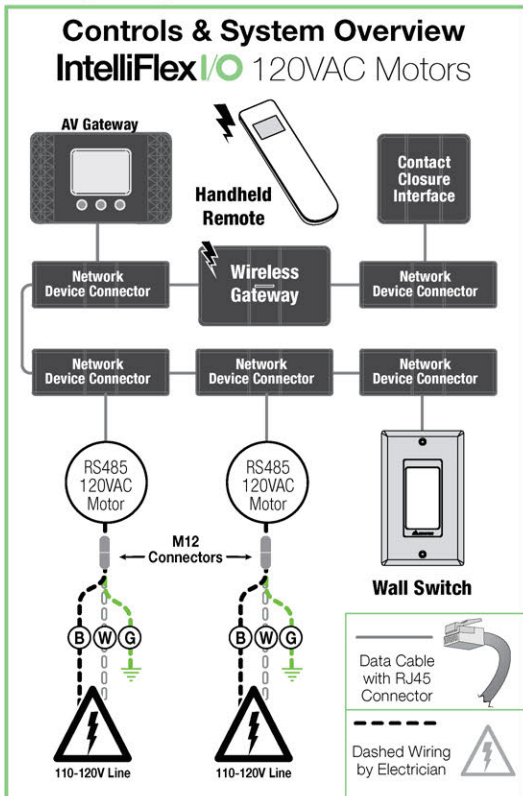
HEADBOX WITH ENDCAPS*					ENDCAPS WITH FASCIA					BRACKETS				
	SMALL		LARGE			SMALL		LARGE			SMALL		LARGE	
A <sup>1</sup>	3 15/16"	100mm	4 11/16"	119mm	A <sup>1</sup>	3 7/8"	98mm	4 5/8"	117mm	A <sup>2</sup>	2 1/2"	64mm	3 1/4"	83mm
B <sup>1</sup>	3 7/16"	87mm	4 11/16"	119mm	B <sup>1</sup>	3 3/8"	86mm	4 5/8"	117mm	B <sup>2</sup>	2"	51mm	2 5/8"	67mm
C <sup>1</sup>	1 1/2"	38mm	1 5/8"	41mm	C <sup>1</sup>	1 1/2"	38mm	1 5/8"	41mm	C <sup>2</sup>	1 5/8"	41mm	2 1/4"	57mm
D <sup>1</sup>	5/8"	16mm	5/8"	16mm	D <sup>1</sup>	5/8"	16mm	5/8"	16mm	D <sup>2</sup>	2"	51mm	2 5/8"	67mm
E <sup>1</sup>	1/16"	1.6mm	3/32"	2.4mm	E <sup>1</sup>	1/16"	1.6mm	3/32"	2.4mm	E <sup>2</sup>	3/4"	20mm	3/4"	20mm

\* For Fascia, Subtract 1/16" (1.6mm) from dimensions A and D

## FlexShade Components



## Wiring Diagrams



# IntelliFlex<sup>®</sup> I/O

by  DRAPER<sup>®</sup>

NOTES:

Contact Us:

Draper, Inc. | 411 S. Pearl St. Spiceland, IN 47385  
draperinc.com | 765.987.7999 | 800.238.7999



FRONT and BACK COVERS: FlexShade Dual Roller with IntelliFlex I/O Motors & Controls. Hancock Tower, Boston, MA  
Mermet E-Screen with Koolblack fabric. Dealer: Ver-Tex. © Brett Drury - Architectural Photography, Inc.