
Converging Systems Inc.



CS-Bus Controllers

Intelligent Motor Controllers

**Models: IMC-300MKII-EM
IMC-300MKII-SL**

Version 5.0.1

Intelligent Motor Controller (IMC-300 MKII Controllers)

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Safety Information

The 120-240vAC versions of this product are listed by the following testing laboratories



For units with provided power cords, this warning needs to be provided.

TO REDUCE THE RISK OF ELECTRIC SHOCK, THIS EQUIPMENT HAS A GROUNDING TYPE PLUG THAT HAS A THIRD (GROUNDING) PIN. THIS PLUG WILL ONLY FIT INTO A GROUNDING TYPE OUTLET. IF THE PLUG DOES NOT FIT INTO THE OUTLET, CONTACT A QUALIFIED ELECTRICIAN TO INSTALL THE PROPER OUTLET. DO NOT CHANGE THE PLUG IN ANY WAY.

POUR REDUIRE LES RISQUES DE CHOC ELECTRIQUE, CET APPAREIL EST QUIPE D'UNE FICHE AVEC MISE A LA TERRE COMPORTANT UNE TROISIEME BROCHE (BROCHE DE TERRE). CETTE FICHE NE PEUT ETRE BRANCHE QUE DANS UNE PRISE AVEC MISE A LA TERRE. S'IL N'EST PAS POSSIBLE DE LA BRANCHER DANS LA PRISE, FAIRE POSE UNE PRISE APPROPRIEE PAR UN ELECTRICIEN QUALIFIE. NE PAS MODIFIER LA FICHE.
*UTILISER A L'INTERIEUR SEULEMENT

FCC Statement

The IMC-300MKII-xx Controllers have been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ICES

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NNB-003 du Canada

Models

100-240VAC versions

IMC-300MKII-EM Master Controller
IMC-300MKII-SL Slave Controller

Ratings:

Input:

IMC-300MKII-EM: 100-240 VAC, 50-60 Hz, Single Phase

IMC-300MKII-SL: 100-240 VAC, 50-60 Hz, Single Phase

Load Capacity:

ALL Models: 2.1A (1/3 HP)

Documentation Revision History

Revision	Date	Description
5.0.0	3/28/2017	New drawings
5.0.1	6/30/2017	Updates for Calibration

Description:

The Masking Director Controller family (IMC-300MKII-EM and IMC-300MKII-SL) are designed to control residential and commercial bi-directional blind, drapery and projection screen single phase, bi-directional AC motors (three wire motors--open, close, neutral connections).

The IMC-300MKII-xx series of Controllers can be controlled through a number of remote control devices, including keypads, dry contact outputs, low-voltage trigger outputs, local and remote Infrared control, IP (Internet Protocol), and computer-based signaling sources (serial communication) such as those manufactured by AMX, Control4, Crestron, Elan, OnControls, RTI, Vantage and others with IP (Internet Protocol) or Serial (RS-232c) interfaces.

The IMC-300MKII-ss series of Controllers can accommodate incoming voltages encountered throughout the world (100vAC to 240vAC). Please note that if powering a system with 120vAC for example, only motors rated at 120v will be supported. Similarly, if powering a Masking Director system with 240vAC as an alternative, only motors rated at 240vAC will be supported.

Warning Notice: There is no internal voltage conversion to support 120v motors when the unit is plugged into a 240vAC mains supply.

TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH APPROPRIATE ELECTRICAL CODES AND REGULATIONS**Important Information:**

- Carefully read the instructions appropriate for your needs.
- This control must be installed by a qualified electrician.
- For supply connections, use wires rated for at least 75 C.
- **WARNING—FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.**
- Use Copper or Aluminum Conductors.
- For indoor use only.
- Do not connect Low-Voltage to Line-Voltage Power.
- Article 725-54(a), (1) Exception No. 3 (NEC) or Canadian CE Code Handbook, Rule 16-212, Sub rule (4) requires segregation between line voltage and Class 2 (low voltage) circuits. Low Voltage/network wires should enter enclosure boxes through separated openings. Also, conductors shall be separated by at least ¼" or segregated by barriers. Check with your local electrical inspector or compliance with local/national codes and wiring practices.
- Earth Ground terminal connection must be made as shown in wiring diagrams.
- Proper short-circuit and overload protection must be provided at the circuit breaker distribution panel. You can use up to a 20A maximum circuit breaker with adequate short-circuit breaking capacity for your installation.

1 Mounting Instructions

Your controller may be pre-mounted in an existing device. However, in some cases, you may have to mount the controller in wall box. If so, please follow the directions below:

Directions

- a. Determine location for wall box. Determine a suitable mounting location for the IMC-300MKII-xx Controller(s) either convenient to the motor that it will be controlling or to the specific user interface control (keypad, IP, serial, etc.) that will be operating the Controller.
- b. Select suitable wall box type and install Controller. Install within either a 5" x 7.75" x 2.75" metal or VO-rated plastic electrical box (106.56 cu in. or larger).

2 AC Line and Motor Wiring Instructions

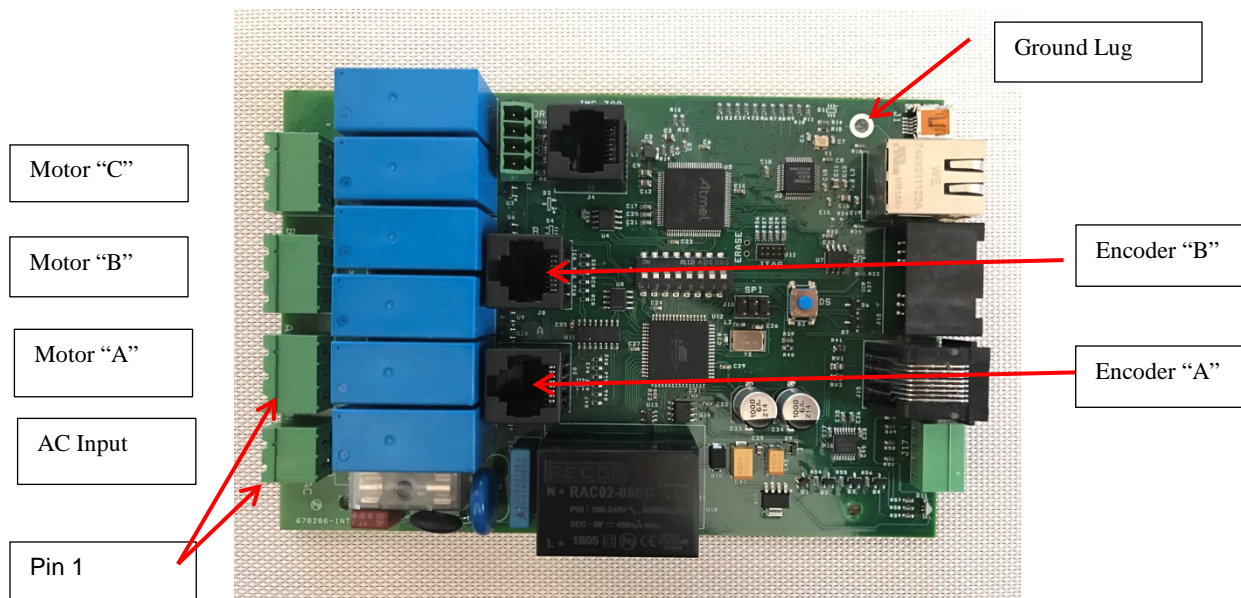


Figure 1

IMPORTANT: MAKE SURE THAT THE AC POWER IS TURNED OFF PRIOR TO CONTINUING.

Directions

- a. Strip 1/4" (6mm) of insulation from 12/2 AWG or 14/2 AWG wire suitable for installation for this type of load for all motor and AC input lines.
- b. Connect AC supply and Motor AC leads as shown below:

Wire Color (function)	MD-300 (see diagram below for pinouts)	Function
AC Input Wires		
BLACK	Pin 1 (on 2-pin plug)	AC load side AC input
WHITE	Pin 2 (on 2-pin plug)	AC Neutral side of AC input
GREEN	To Gnd Lug or alternative ground on mounting box	Connect Ground to "Grounding" lug on IMC-300MKII-xx housing
Motor AC Wires*		
RED	Pin 1 (on 3-pin plug)	(Clockwise rotation to move upwards)
BLACK	Pin 2 (on 3-pin plug)	(Counterclockwise motor rotation to move downwards)
WHITE	Pin 3 (on 3-pin plug)	Motor Neutral
GREEN	To Gnd Lug or alternative ground on mounting box	Connect all Motor Grounds to "Grounding" lug on IMC-300MKII-xx housing

***Note:** There are three motor ports on the MD-300. Motor Ports 1 and 2 are equipped with a built-in (accompanying) digital encoding circuit. Motor Port 3 is for analog-type motors (without digital encoding provisions). AC Motor wires should be plugged into appropriate ports.

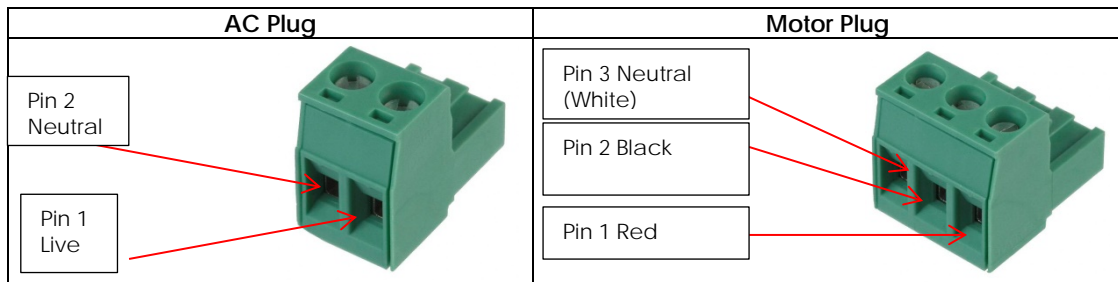


Figure 2

- c. In cases where any specific motor(s) is equipped with digital encoding circuitry (referred to as encoders), plug each Motor's associated Encoder Cables into the matching Encoder Port as shown In [Figure 1](#) (i.e. Encoder for Motor "A" plugs into Encoder Port "A" and AC wires for Motor "A" plugs into Motor "A.").
 - d. In certain cases, two or more MD-300 units may be daisy chained together for unified control where more than 2 digital motors and 1 analog motor are desired to be integrated within the Masking Director system. In this case, plug additional Digital Motors into the digital ports (i.e. Ports "A" and Ports "B") and any Analog Motors into the analog Port (i.e. Port "C").
- Note:** For further information on how to interconnect multiple MD-300xx controllers, refer to section 3.3 below.
- e. Leave AC Power OFF to system until requested to turn ON.

3 Communication/ Low Voltage and CS-Bus Wiring Instructions

Multiple communication I/Os are available within the IMC-300MKII-EM controller. Typically, only form of communication should be used. The choice depends upon your specific integration platform. It is recommended that for most systems, Internet Protocol (IP) should be used. IP offers up to 328 ft. runs from the control system (as opposed to 50 feet runs with RS-232c), and remote diagnostics by Stewart is possible only using IP.

Please select the appropriate communication protocol desired from section 3.1 or 3.2 below then proceed to section 3.3 for additional systems low-voltage wiring for proper system integration.

Note: Additional IMC-300MKII-SL controllers, or other compatible CS-Bus controllers including the IMC-100 and IRC-100 controllers will receive their communication input from the Master controller (IMC-300MKII-EM) described above and therefore no additional communication gear (IBT-100 or e-Nodes are required).

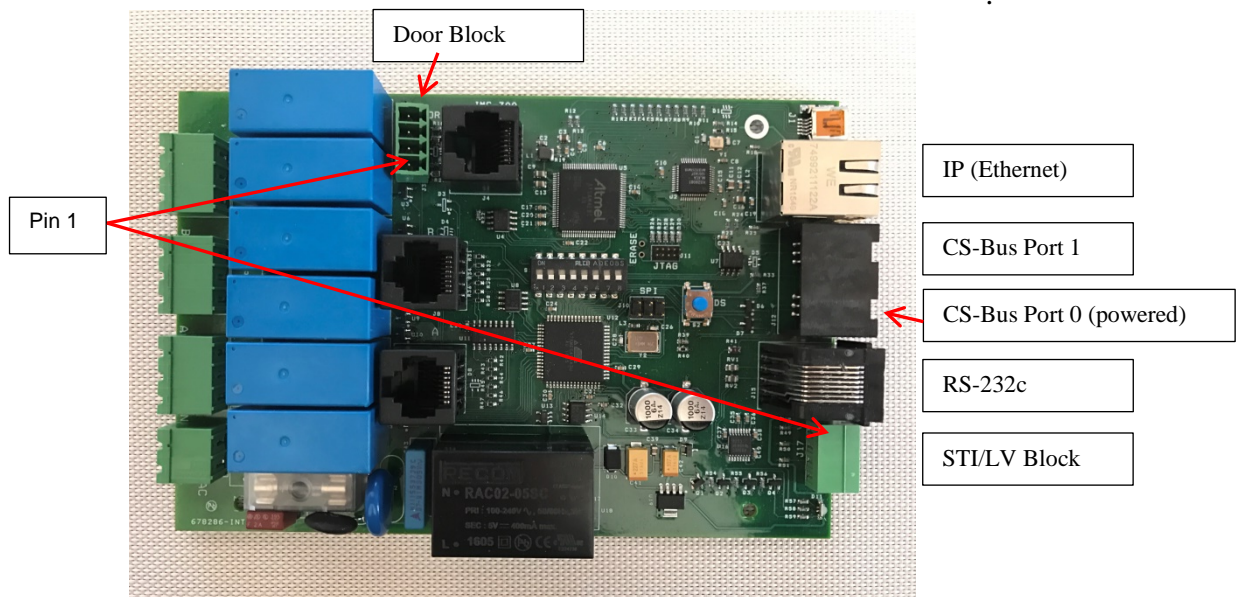


Figure 3

General Information:

- **For Ethernet Connections** -- Use 22-24 AWG CAT5 (or better) interconnection wires with maximum length of bus less than 328 feet (100m) for Ethernet connections.
- **For Serial Connections** -- Use 22-24 AWG CAT5 (or better) interconnect wires with maximum length of bus less than 50 feet (15.25m (if using 4 pair wire, simply do not use the Brown and Brown/White of 4th pair wires).
- **For CS-Bus Connections** --Use 22-24 AWG CAT5 (or better) interconnect wires with maximum length of bus less than 4000 feet (1219m) (if using 4 pair wire, simply do not use the Brown and Brown/White of 4th pair wires).
- **For STI/LV and Door Controls** -- Use 18-22 AWG interconnect wires with maximum length of run of 10 feet (3.04m). Since there is no data communication on these channels, you may use any wiring configuration you desire.
- Route Low Voltage wires through a **separate entry or knockout** from AC Supply and Motor connections.

3.1 Ethernet Communication Wiring Directions (Internet Protocol). (See Figure 3 above.)

Directions

- Prepare Ethernet communication wire (Cat5 or better) with RJ-45 connectors on each end. Do not exceed the maximum run of 328 feet (100 meters).
- Plug one end of the above cable into the **IP Connector** on the IMC-300MKII-EM Controller and the other end to a network switch through which control to a remote integration platform is connected.

Note: In the case of a multiple IMC-300MKII controllers, only one connection to the IP Connector on the master controller (the IMC-300MKII-EM Controllers) is required.

3.2 RS-232C Communication Wiring Directions (Serial-RS-232c Protocol). (See Figure 3 above.)

Directions

- Prepare Ethernet communication wire (Cat5 or better) with RJ-45 connectors on each end. Do not exceed the maximum run of 328 feet (100 meters).
- Plug one end of the above cable into the **RS-232C Connector** on the IMC-300MKII-EM Controller and the other end to a Stewart provided RJ-45 to DB-9 dongle. Do not exceed a run of 50 feet (15.24m) in this case.

Note: In case you wish to create your own wire, use the pinout below

RS-232 (RJ-45 connector) on IMC-300MKII EM	Computer RS-232C Connector (DB-9)
1 Not required	1 Not required
2	2 PC Rx
3 GND	3 PC Tx
4 TXt	4 Not required
5 GND	5 GND
6 RX	6 Not required
7 Not required	7 Not required
8 Not required	8 Not required
9 Not required	9 Not required

The serial parameters are as specified below

Baud	Data Bits	Parity	Stop Bits	Handshaking
19,200	8	N	1	none

In the case of a multiple IMC-300MKII-xx controllers (or alternative CS-Bus controllers), only one connection to the RS-232C Connector on the master controller (the IMC-300MKII-EM Controllers) is supported.

3.3 CS-Bus Connections (for connection to keypads and to additional IMC-100MKII-xx controllers). [\(See Figure 3 above.\)](#)

Directions

- a. Prepare communication wire with RJ-25 connectors on each end. (An RJ-25 connector is similar to traditional RJ-11 connector except it has 6P6C). Straight wiring should be used (i.e. 1-2,2-2,3-3,4-4,5-5,6-6). Pinouts are shown below:

Note: Wiring is *incompatible* with standard telephone wiring and therefore telephone cabling should not be used.

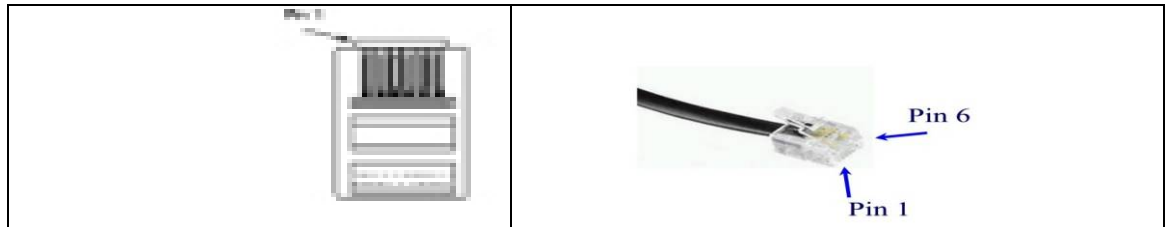


Figure 4

CS-Bus Connection (on IMC-x00x Controller) (LEFT or “OUTPUT” Port 0) (see Figure 10)	CS-BUS Connection (on IMC-x00x Controller) (Right or “INPUT” Port 1) (see Figure 10)
#1 No Signal	#1 No Signal
#2 GND	#2 GND
#3 485-	#3 485-
#4 485+-	#4 485+
#5 5V DC (regulated)	#5 5V DC (regulated)
#6 9V DC (unregulated)	#6 9V DC (unregulated)

- b. When connecting an IMC-x00 compatible keypad to an IMC-300MKII-EM (i.e. BSMK-2110-B), connect the first keypad to the IMC-300MKII-EM's **Output** (Port 0). If you desire to connect a second compatible keypad, secure an optional Device Insertion Module (DIM-2F-1M) and plug the DIM-2F/1M into Port 0 on the MD-300 and plug both keypads into the available Female ports. Alternatively, you can use a DIM adapter on the first keypad and simply plug the second keypad into the available port on the DIM.

Note: Do not attempt to plug the second keypad into the alternative CS-Bus Port 0 available on the DM-300EM as this is an unpowered port and is also compatible with inter-bus communication to downstream IMC-300MKII-xx devices.

- c. In the event that multiple MD-300 controllers are configured within a system, the master IMC-300MKII-EM should be connected to downstream IMC-300MKII-xx controllers (or additional IMC-300MKII-EM controllers configured as slaves) using CS-Bus communication cabling. In this case, use the same type of cabling created in section "a" above and connect from CS-Bus Port 1 on the first IMC-300MKII-EM controller to Port 0 on the second IMC-300MKK-SL. Continue this wiring topology (1 to 0, 0 to 1, throughout the system).

3.1 STI/LV and Door Connections. ([See Figure 3 above and Figure 5 below](#))

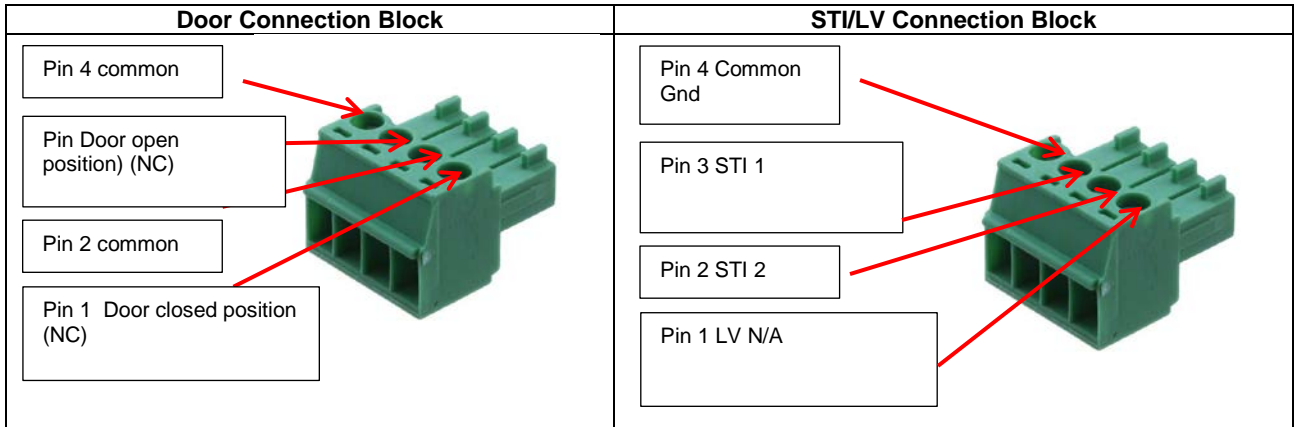


Figure 5

Directions

- a. **Door Connection Block** (required for installations with doors). Run door micro switch wires to the removable connector as shown below:

Door Connection Block (4-pin connector)
Pin 1 & 2 Door Closed position (NC)
Pin 3 & 4 Door Open position (NC)

- b. **STI (2 channels available)**. Run STI interconnection to removable connector as shown below:

Pin on Removable Connector	Video Projector on/off trigger output	Video Projector second triggered output (16:9 for instance)
Pin 1 (Signal A DC-) And Signal B DC-)	Ground	Ground
Pin 2 (Signal A DC+)	5v+-12v+ output	
Pin 3 (Signal B DC+)		5v+-12v+ output

- c. **LV Connection.** Reserved for future. (Pins 1 on STI/LV connection block.

4 Programming Motor Addressing/Initial Setup

Background: The IMC-x00x Controllers and their associated User Interface Control Devices (keypads) have been designed with a rich feature set field proven in large commercial installations. A set of rich software tools and programming aides have been designed for the trained installer to customize virtually any feature within the IMC-300MKII-xx controller and connected User Interface Control Device(s).

When a Masking Director is initially set-up with one or more motors, specific motor settings (ccw, cw, etc.) can be either configured through factory programmed DIP SWITCH settings or can be customized on the factory floor. Should your installation only require such functionality, please proceed within this section. However, if your installation requires additional customization not available with the information contained within this section, please consult Converging Systems

Now follow the below steps:

4.1 Factory Programming-DIP Switch Programming

Certain often used templates have been re-programmed into the IMC-300MKII controller. These templates can be automatically recalled by setting the on on-board PCB DIP switches to the positions documented in [Appendix 3](#). If a particular template is not re-loaded, then alternative programming is possible through the use of e-Node Pilot. Refer to Section 5.2 below for more information here.

4.2 Customized Programming- (non-DIP SWITCH programming)

See Appendix 6 for more information.

5 Power On/Testing

IMPORTANT: MAKE SURE THAT THE AC POWER TO ALL CONTROLLERS IS TURNED OFF PRIOR TO CONTINUING.

Directions

- a. Set the DIP Switches on the IMC-300MK-EM (and any connected IMC-300MKII-SL connected versions) as per the directions in section 4 above.
- b. Make sure that you have connected all relevant motors for the DIP switch setting performed in Step “a” above. In addition, for convenience, connect one Masking Director compatible keypad (BSKP-2112 is the preferred keypad).
- c. For enhanced/accelerated testing, you may select to make a communication connection using Ethernet connectivity.
- d. Power on all IMC-300MKII-xx Controllers by providing (compatible) AC power to all components. See [Warning Note](#) above.
- e. Verify each IMC-300x Controller has powered up properly by examining its status LED indicator. Depending upon the configuration of each IMC-300x and its current operational status (whether or not an operational IP connection is provided), a specific color and flash pattern for the on-board

LED will indicate the Controller's status. Please refer to the following two configuration cases below for the specific information for your installation.

State	If no IP connection is provided at power-up	If IP connection is provided at power-up
AC power applied	<ul style="list-style-type: none"> Initially, on-board RED LED will flash for 2 seconds indicating Power ON Self Test passed. 	<ul style="list-style-type: none"> Initially, on-board RED LED will remain ON for 2 seconds indicating Power ON Self Test passed
Waiting to recognize IP connection	<ul style="list-style-type: none"> GREEN LED will flash FAST indicating that it is searching for a valid IP connection. In this case, since no IP connection is provided, after __ seconds, LED will switch to BLUE SLOW flash which means that alternative communication channels can be used to control device. 	<ul style="list-style-type: none"> GREEN LED will flash FAST while a valid IP connections is being made
Network connection made	<ul style="list-style-type: none"> N/A in this case 	<ul style="list-style-type: none"> Once valid IP connection is made, led will change to SLOW GREEN flash
Removal of Network connection		<p>(GREEN LED will continue to Flash SLOWLY but alternative communication channels (RS-232c) can be used)</p> <p>Note system is still looking for an IP connection and LEDs will continue to cycle as described above.</p>

- f. Provided the DIP switches have been set to a valid programmed setting, pressing an appropriate button on a BSKP-2112 keypad should enable quick testing of the Masking Director System.
- g. Enhanced testing can be performed using the e-Node Pilot application.

APPENDIX 1

Keypad and IR-Remote Accessory Information

Please refer to appropriate section below for specific information on your specific keypad.

MK II style keypads

- A Mk II style keypad has an on-board RJ-25/telephone type connector on the back of the keypad.
- Mk II style keypads can be remotely configured with alias (names), a unique ID (UID), and can have their functionality reprogrammed using outside software tools.

Type of Interface	Description	Model Number	Section Reference
Mach II keypads (with RJ connector)	11 button keypad	BSKP-2112 (IMC-300 MKII model)	A1-1.1
	11 button keypad	BSKP-2110 (BRIC MKI model)	A1-1.1
	3 button keypads	BSKP-2030	A1-1.2
	5 button keypads	BSKP-2050	A1-1.2
	Paddle keypad	BSKP-2020	A1-1.3
Handheld Infrared Remote	12 button handheld	21-1022-000	A1-2.1
	3 button handheld	IMC-IR-3W	A1-2.2
	5 button handheld	IMC-IR-5W	A1-2.3

1.0 MKII Intelligent Keypads with RJ-25 connectors

A1-1.1 Single Gang Keypad (BSKP-2110Series) – Preset and Motor Movement and IR

Feature Set	Compatible Controllers		
	IMC-100c	BRIC (MKI)	IMC-300MKII-xx
BSKP-2112-B Standalone Model BSKP-2112/ Mk II style	✓ (setup with P4 button pushed)	✓ (setup with P1 button pushed)	✓ (setup with P2 button pushed) This is the default from the factory
BSKP-2110-B Standalone Model (traditionally shipped with BRIC I) BSKP-2110/ Mk II style	✗	✓	✓ This legacy keypad lacks certain features now available with BSKP-2112 keypad and should only be used for limited operation.

Application: This series of keypads can control of one more *compatible* (see list above) intelligent motor controllers linked together. When used in conjunction with one or more ILC-100x Intelligent Lighting Controller(s), the UP and DOWN buttons can also trigger particular lighting presets. Depending upon how the BSKP-2000 keypads are programmed, motors can be programmed to run independently or in conjunction with specific LED activity. Consult the ILC-100 manual for more information here.

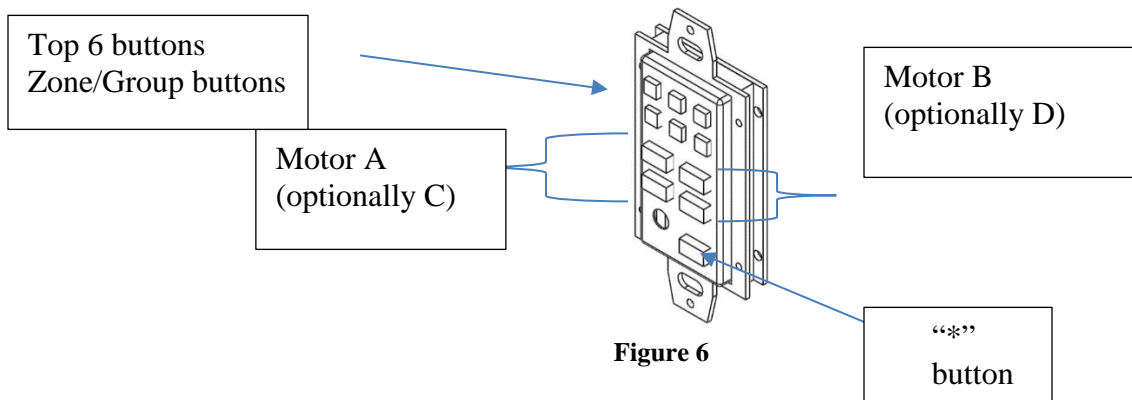


Figure 6

Zone/Group Buttons (top three rows/6 buttons). A specific Zone/Group button needs to be selected and pressed first before a (i) Specific Activity Button, or (ii) a Preset Button is pressed. These buttons properly identify to the system the specific motor or sets of motors that will be controlled. The factory default for these six buttons is (Zone1/Group 1) for the first button marked “1,” sequencing to (Zone 1/Group 6) for the last button marked “6” (i.e. the Zones are always the same if the factory defaults are left unmodified).

If the factory default of Zone 1 is desired to be changed (i.e. such that the entire keypad is a Zone 6 keypad for instance), select the button whose number relates to the new desired zone (i.e. pick the button marked “6”) and hold that button until you hear the first beep, then release. The keypad is now set to the new zone address such that the operation of the 6 group buttons will be as follows: button marked “1” will be (Zone 6/Group1) sequencing to the (Zone 6/Group 6) for the last button marked “6.”

Note: if additional customization is required, you will need to use the e-Node Pilot application which permits basically any type of additional customization to be performed.

Preset Buttons (top/bottom or combination of both). The right pair of Preset Buttons activates one or more connected motor controllers whose zone and/or group have been previously selected using the “Group/Zone Selection” buttons to move motor(s) with matching address(es) to the selected preset. The top button directs the specific controller to move to Preset 1, while the bottom button directs the controller to move to Preset 3. If both buttons are depressed simultaneously, a command is generated that moves the controller to Preset 2

Specific Activity Buttons- Selected Zone/Group (UP/DOWN). The pair of UP/DOWN buttons activates one or connected motor controllers whose zone and/or group has been previously selected using the “Group/Zone Selection” buttons to move motor(s) with matching address(es) in the selected direction. In the factory default settings, if you tap the switch once in one of the applicable directions (UP or DOWN) and then release, the motor controller will activate connected bi-directional motor(s) with matching addresses to travel in that appropriate direction until the motor(s) reaches its desired (fully UP or fully DOWN) position.

Backlit LEDs. To turn on the blue backlit LEDs on this keypad, hold the * button for one beep and then release. To turn off the blue backlit LEDs, hold the * button for one beep and release.

* **Button.** Selecting the * button before selecting either a (i) Specific Activity Button, or a (ii) Preset Button directs the keypad to transmit an “All” command to all Group addresses currently configured within the keypad **plus** the Specific Activity Command or Preset Command selected.

In addition, additional features are available with * button. See table below.

Type of Operation	Details
<p>UID Assignment Mode Hold and quickly release * button within 100 ms (you should hear no beeps during this period)</p>	<p>If in <i>UID assignment mode (by using e-Node and Pilot application)</i>, hold and release * button within specific time and keypad will be linked to the UID address (initially) broadcasted onto bus.</p> <p>Note: After initial UID assignment has been made, either a factory reset is required or the use of e-Node and e-Node Pilot application is required</p>
<p>One beep mode. Hold and release * button after you hear the first beep</p>	<p>This turns on the backlit LEDs. Alternatively, the next time this sequence is received, the backlit LEDs with turn off if previously on, or turn on if previously off.</p>
<p>Two beep mode. Hold and release * button after you hear the second beep</p>	<p>This is a CALIBRATE mode which sends the command #1.1.0.MOTOR=CALIBRATE.</p> <p>For more information See Appendix 3 subtopic Auto Calibration.</p> <p>Note: this command should be used on motor assemblies that have a door element. All motors should be send to home first using individual controls for Motor A, Motor B (if present). Then the Calibrate command should be invoked. This auto-calibrates the IMC-300 MKII to know the location of all motors in their</p>

	Home position and instructs the Door logic thereafter to only close if these "Home" positions are recognized.												
<p>Three beep mode. Hold and release * button after you hear the third beep</p>	<p>Full factory reset. UID is reset.</p> <p>Note: <i>With some keypads where multiple personalities can be programmed (2030.2050, and 2110-L), it will be necessary to follow a factory documented process after this reset to properly personalize the keypad for the correct operation. The keypad may not work at all without this additional programming step.</i></p> <p><i>The BSKP-2112 keypad can be programmed as follows. Unless you have happened to have mis-programmed a keypad or the keypad is not working, you can try this factor reset procedure.</i></p> <table border="1" data-bbox="708 598 1476 758"> <thead> <tr> <th>Mode</th> <th>Select Button</th> <th>Default from Factory</th> </tr> </thead> <tbody> <tr> <td>BSKP-2112 Mode</td> <td>P2</td> <td>yes</td> </tr> <tr> <td>BSKP-2110 (Bric I mode)</td> <td>P1</td> <td></td> </tr> <tr> <td>IMC-100 Mode</td> <td>P4</td> <td></td> </tr> </tbody> </table>	Mode	Select Button	Default from Factory	BSKP-2112 Mode	P2	yes	BSKP-2110 (Bric I mode)	P1		IMC-100 Mode	P4	
Mode	Select Button	Default from Factory											
BSKP-2112 Mode	P2	yes											
BSKP-2110 (Bric I mode)	P1												
IMC-100 Mode	P4												

Infrared Receiver. This is a build-in Infrared Receiver to be used with compatible Infrared remote.

A1-1.2 Single Gang Keypad (BSKP-2030/2050 Series)– Motor Movement and IR Wall pad

Feature Set	Compatible Controllers		
	IMC-100c	BRIC (MKI)	IMC-300MKII-xx
BSKP-2030	✓	✗	✓ (simple operation for open/close/stop for 1 (2030) motor)
BSKP-2050	✓	✗	✓ (simple operation for open/close/stop for 2 (2050) motors)

Application: This series of keypads can control of one *compatible* motor controllers (see lists above) when linked together. When used in conjunction with one or more ILC-100x Intelligent Lighting Controller(s), the Channel 1 UP and DOWN buttons can also trigger particular lighting presets. Depending upon how the keypads are programmed, motors can be programmed to run independently or in conjunction with specific LED activity. Consult the ILC-100 manual for more information here.

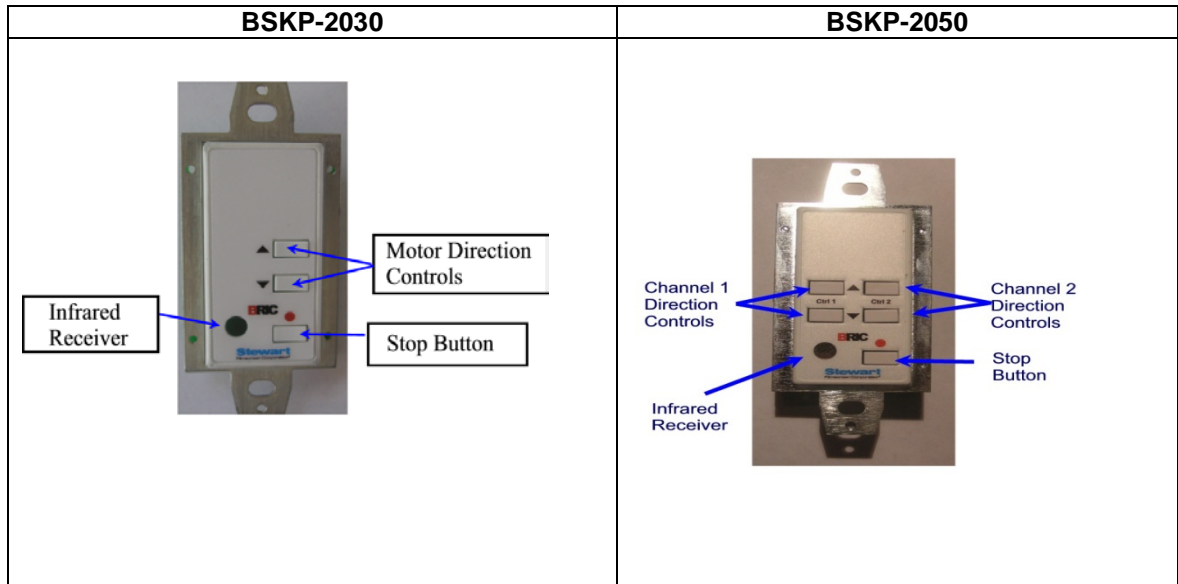


Figure 7

Specific Activity Buttons-Channel 1 (UP/DOWN). The right pair of UP/DOWN buttons activates one or connected motor controllers *designated as Channel 1* to move those motor(s) in the selected direction. In the factory default settings, if you tap the switch once in one of the applicable directions (UP or DOWN) and then release, the IMC Controller will activate a connected bi-directional motor to travel in that appropriate direction until it reaches its desired (fully UP or fully DOWN) position.

BSKP-2050 only

Specific Activity Buttons-Channel 2 (UP/DOWN). The right pair of UP/DOWN buttons activates one or connected motor controllers *designated as Channel 1* to move those motor(s) in the selected direction. In the

factory default settings, if you tap the switch once in one of the applicable directions (UP or DOWN) and then release, the IMC Controller will activate a connected bi-directional motor to travel in that appropriate direction until it reaches its desired (fully UP or fully DOWN) position.

● **Button.** Depress this button anytime while a motor moving and the motor will stop.

Infrared Receiver. This is a built-in Infrared Receiver to be used with compatible Infrared remote.

A1-1.3 Single Gang Keypad (BSKP-2020 series) – Decora-type Motor Movement and Presets Type

Feature Set	Compatible Controllers		
	IMC-100c	BRIC (MKI)	IMC-300MKII-xx
BSKP-2020-M	✔	✘	✔ TBD

Application: This series of keypads can control of one more *compatible* motor controllers (see list above) linked together. When used in conjunction with one or more ILC-100x Intelligent Lighting Controller(s), the UP and DOWN buttons can also trigger particular lighting presets. Depending upon how this series of keypads is programmed, motors can be programmed to run independently or in conjunction with specific LED activity. Consult the ILC-100 manual for more information here.



Figure 8

Specific Activity Buttons-Channel 1 (UP/DOWN). The UP/DOWN buttons activate one or connected motor controllers *designated as Channel 1* to move motor in the selected direction. In the factory default settings, if you tap the switch once in one of the applicable directions (UP or DOWN) and then release, the motor controller will activate a connected bi-directional motor to travel in that appropriate direction until it reaches its desired (fully UP or fully DOWN) position.

2.0 Handheld IR remotes

A1-2.1 Handheld 12-button Infrared Remote

Feature Set	Compatible Controllers		
	IMC-100c	BRIC (MKI)	IMC-300MKII-xx
12-button remote IR Remote-12 button/SFC PN 11917	✓	✓	✓
10-button remote IMC-IR-10W1	✓	✗	✓
5-button remote	✓	✗	✓
3-button remote	✓	✗	✓

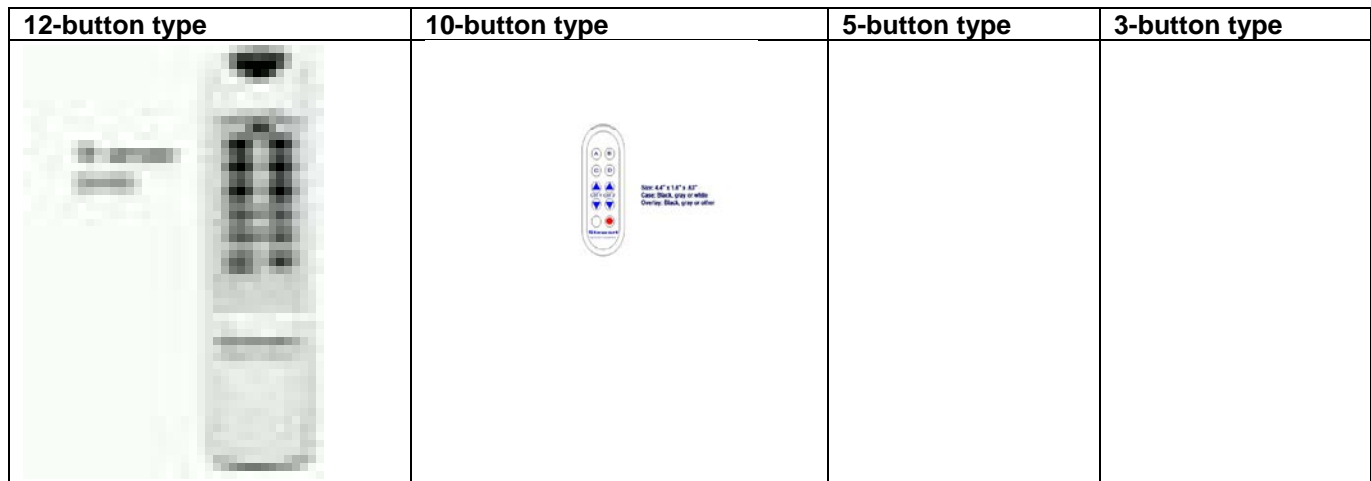


Figure 9

Several models of IR handhelds may be available to control various motor Controllers. Depending upon the number of buttons provided, the specific functionality of the device will vary; however, the following directions will generally apply to all Converging Systems' Infrared remotes.

Application: Infrared remotes can control of one more intelligent motor controllers linked together. When used in conjunction with non-BRIC MKI controllers and one or more ILC-x00x Intelligent Lighting Controller(s), the Channel 1 and Channel 2 UP and DOWN buttons can also trigger particular lighting presets. Depending upon how the particular remotes are programmed, motors can be programmed to run independently or in conjunction with specific LED activity. Consult the ILC-x00 manual for more information here.

Preset Buttons. These buttons select preprogrammed presets 1 through 6. In addition, when combined with the Store key, the sample presets numbers can be stored.

Specific Activity Buttons-Channel 1 (UP/DOWN). The right pair of UP/DOWN buttons activates one or connected Controllers *designated as Channel 1* to move motor in the selected direction. In the factory default settings, if you tap the switch once in one of the applicable directions (UP or DOWN) and then release, the selected Controller will activate a connected bi-directional motor to travel in that appropriate direction until it reaches its desired (fully UP or fully DOWN) position.

Specific Activity Buttons-Channel 2 (UP/DOWN). The right pair of UP/DOWN buttons activates one or connected Controllers *designated as Channel 2* to move motor in the selected direction. In the factory default settings, if you tap the switch once in one of the applicable directions (UP or DOWN) and then release, the selected Controller will activate a connected bi-directional motor to travel in that appropriate direction until it reaches its desired (fully UP or fully DOWN) position.

STOP/* Button. Depress this button anytime while a motor moving and the motor will stop.

Toggle Button. Enables the remote to control banks of motors. Initially Motors A/B can be controlled. Upon pressing and releasing the Toggle button, Motors C/D can be controlled in a dual Masking Director configuration.

12-button only

STORE Button Enable the storage of exact motor positions. First select the Store button then a preset number from 1 to 6

APPENDIX 2

Technical Information-Low Voltage Wiring Diagrams

The IMC has both low-voltage connections as well as CS-Bus connections. Refer to following diagram to understand location of Pin 1 on all connectors.

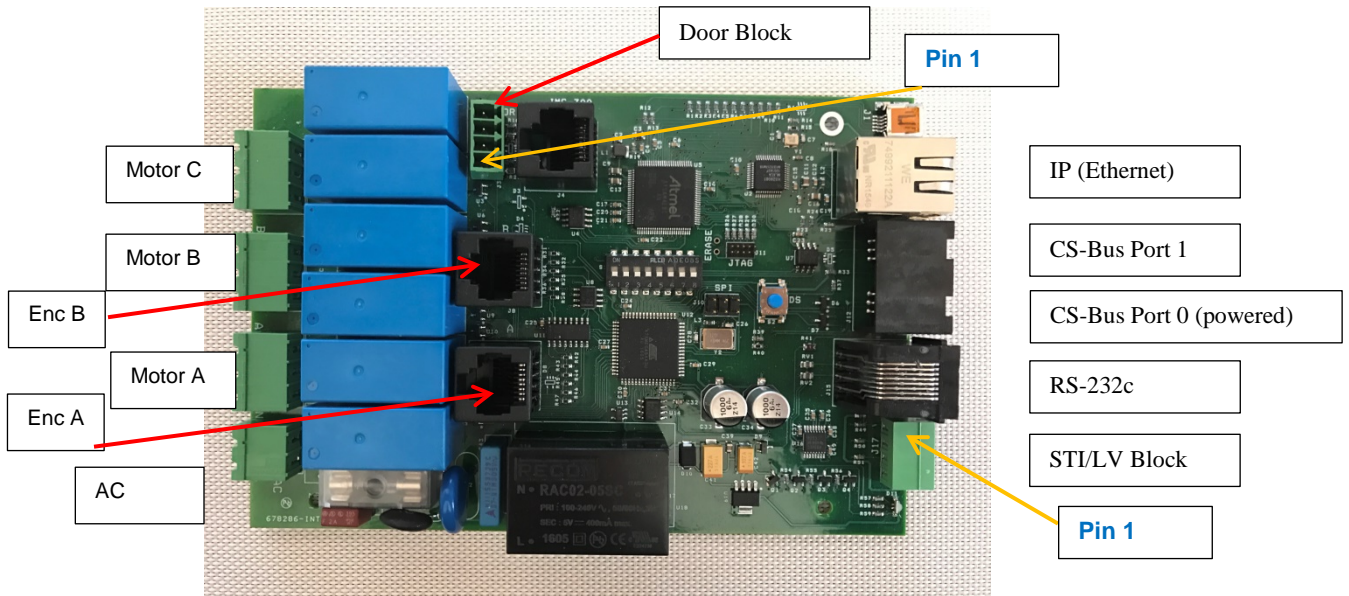


Figure 10

A2-1 Low-Voltage Switch and Voltage Trigger Interfaces (STI)

A2-1.1 STI Interface

STI connector on IMC-300MKII Controller (see Figure 12)	STI -1	STI-2
Pin 1 (left) Ground	Pin 1 (Ground)	Pin 1 (Ground)
Pin 2 Channel 1 input	Pin 2 (+)	
Pin 3 Channel 2 input		Pin 3 (+)
Pin 4 Reserved		

A2-1.2 Low-Voltage Switch (currently not supported)

A2-2 Infrared Connections

Note: The IMC-300MKII series Controllers support external IR through a CS-BUS connected BSKP-2110/2116/2030/2050 keypads. No additional IR support is provided. has a built-in optional IR attachment connector.

A2-3 Intelligent Peripheral Connections

A2-3.1 CS-Bus to IMC-BSKP-2030 (3 button), IMC-BSKP-2050 (5-button) or IMC-BSKP-2110/2112- (Intelligent Keypads) [Mk II Keypads]

Figure 14

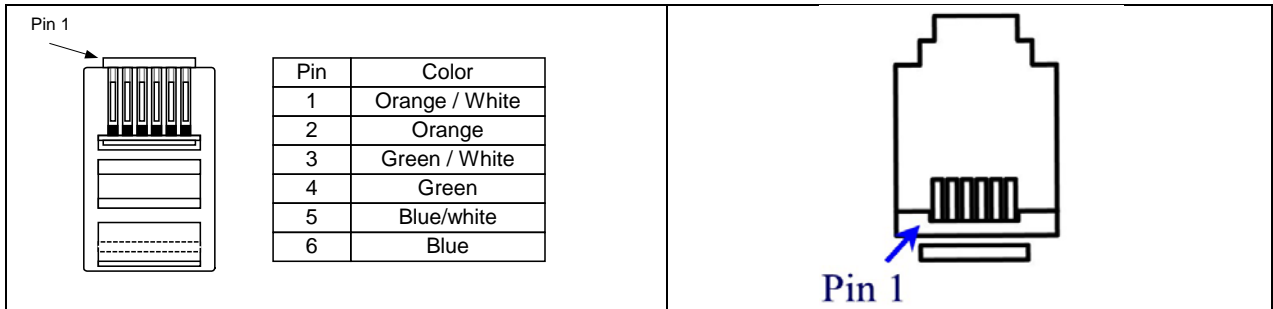


Figure 11

CS-Bus RJ-12 Connection (on IMC-300MKII Controller) (LEFT or "OUTPUT" PORT 0) (see Figure 12)	IMC-BSKP-2xxx Keypad (RJ-25 connector) Pin #1 on RJ-25 plug is as marked above
#1 (left) IR	#1 No connection
#2 GND	#2 GND
#3 485-	#3 485-
#4 485+	#4 485+
#5 5V DC (regulated)	#5 5V DC (regulated)
#6 9V DC (unregulated)*	#6 9V DC (unregulated)*

IMPORTANT: maintain twisted pairs for pins 1/6, pins 2/5, and pins 3/4.

Note: Pin #6 voltage is only available on IMC-300MKII Port 0. BSKP-MII keypad can operate with either Pin #5 or Pin #6 voltage.

A2-4 CS-Bus Connections

A2-4.1 IMC-300MKII Controller to IMC-x00 Controller(s) Communication Wiring

Wiring Note: The preferred method of connection between multiple IMC-300MKII and IMC-100 and IRC-100 devices is to connect the "Output" Port 0 of one unit to the "Input" Port 1 of the next unit (see directions under Section 3.1 above. You should routinely use 8-conductor CAT5 wire and simply cut 1 pair (the Brown and Brown/White wires) and therefore populate the RJ-25 connectors that are used to interconnect the IMC-300MKII and IMC-100x Controllers with 3 twisted pairs (6 wires). For shorter runs, you can use flat 6-conductor telephone line cord and appropriate RJ-25 connectors.

CS-Bus Connection (on IMC-300MKII and IMC-100x Controllers) (LEFT or "OUTPUT" Port 0) (see Figure 10)	CS-BUS Connection (on IMC-300MKII and IMC-100x Controllers) (Right or "INPUT" Port 1) (see Figure 10)
#1 No Signal	#1 No Signal
#2 GND	#2 GND
#3 485-	#3 485-
#4 485+-	#4 485+
#5 5V DC (regulated)	#5 5V DC (regulated)
#6 9V DC (unregulated)	#6 9V DC (unregulated)

A2-4.2 RS-485 Terminators

Applicability Note: RS-485 communication is designed around end-of-bus resistor termination. This guarantees error-free communication despite external noise and other sources of interference. It is highly advised that when more than one IMC-300MKII or IMC-100x Controller is interconnected, one terminator is placed on one end of the bus and another terminator is placed on the other end of the bus. It does not matter into which CS-Bus port these terminators are connectors so long as they are at the very beginning of the bus and the very end of the bus.

RJ-25 connector terminator wiring (See Figure 13)	
#1	---
#2	---
#3	120 ohm resistor connection
#4	120 ohm resistor connection
#5	---
#6	---

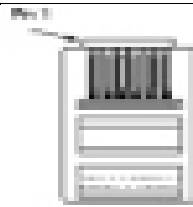


Figure 12

Appendix 3

Configuration Switch Settings for Masking Director IMC-300MKII and Autocalibration Steps

The on-board DIP switch should only be set by authorized Stewart Filmscreen personnel. Improper setting of the DIPSWITCH will void the Stewart Filmscreen warranty on the Masking Director Systems.

Programming DIP SWITCH

Note: a “0” indicates the DIP SWITCH is in the DOWN or OFF position; a “1” indicates the DIP SWITCH is in the UP or ON position

Please see Section 2 below for DIP switch settings for Masking Director units having an 8 position DIP switch on the motherboard.

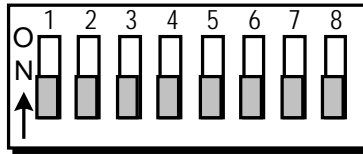


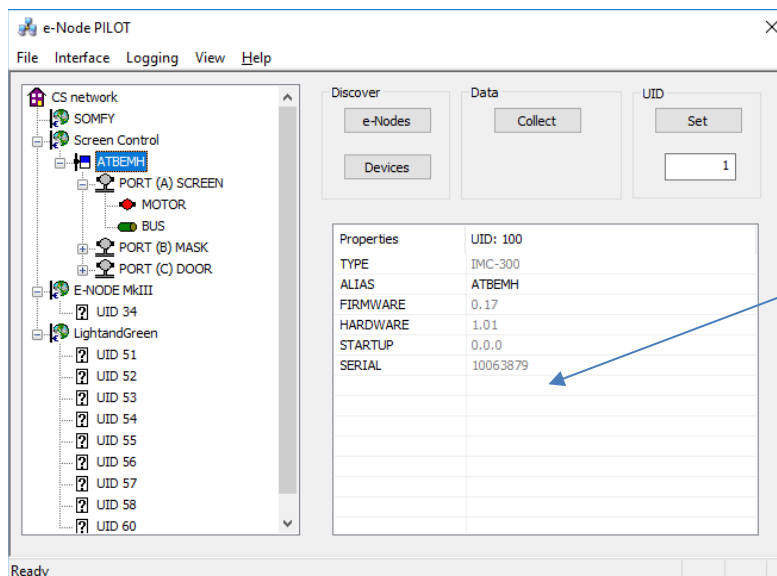
Figure 13

Note: Not all cases are currently implemented. Refer to last column for current status. (YES or NO)

Note: a “0” indicates the DIP SWITCH is in the DOWN or OFF position; a “1” indicates the DIP SWITCH is in the UP or ON position

Auto Calibration Steps.

The IMC-300MKII supports a range of screen types. For screens which include a door, a special built-in programming scheme exists within device firmware versions 0.17 and later (this is the firmware for the Motor Control portion of the IMC-300MK as opposed to the ethernet/communication front end-firmware).












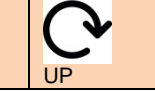


Note: Calibration is automatically performed for all screen types when the screens are fully retracted (or up). *For screens with doors, semi-automatic calibration is required*—nowhere else.

Directions for Semi-Automatic Calibration (you will need perform this in cases **ONLY** where there is a door and the door is not currently closed and the screens/masks fully retracted initially upon factory production)

	Directions with only a keypad	Directions with Pilot connected to computer
1	Raise screen to fully retracted position	Raise screen to fully retracted position
2	Raise mask to fully retracted position	Raise mask to fully retracted position
3	With the new keypad (marked 2112 or BSKP-XXXX) hit the * button until the second beep occurs. This will send a CALIBRATE command over the CS-BUS to the system which will instruct the unit that all screens and masks are full retracted and in such position the door is safe to close.	With Pilot running on a computer connected to the IMC-300MKII BRIC II via ethernet, send over the command within the TRAFFIC window: #1.1.0.MOTOR=RETRACT This sends over the important CALIBRATE command over the CS-BUS to the system which will instruct the unit that all screens and masks are full retracted and in such position the door is safe to close.

	Switches								Description	Motor A		Motor B		Motor C		Tension Cycle	Remote/ Keypad * button	Status	
	1	2	3	4	5	6	7	8		Direction	Initialize	Direction	Initialize	Direction	Initialize				
0									0	Test Mode									YES
02							●		02	BEMVV							NO	Toggle Chan C	
03							●	●	03	ATBEMHV Master					DOOR		Yes	Retract / Home	YES
04						●			04	EMHV							Yes	Toggle Chan C	NO
05						●		●	05	EMH2V-Master							NO	Retract / Home	NO
06						●	●		06	EMH2V-Slave							NO	Retract / Home	NO
07						●	●	●	07	EMH, EMHC ****								Retract / Home	NO
08					●				08	EMSNH							NO	STOP	YES
09					●			●	09	Dual Masking EMHV							NO	Toggle Chan C	NO
10					●		●		0A	4WSN							NO	Toggle Chan C	NO
11					●		●	●	0B	8 Way Slave							NO	STOP	NO
12					●	●			0C	8 way Master							NO	Toggle M/S	NO

13					•	•		•	0D	Director's Choice Master		 UP		 DOWN			NO	Toggle M/S	YES
14					•	•	•		0E	Director's Choice Slave		 LEFT		 RIGHT			NO	STOP	YES
15					•	•	•	•	0F	ABTEMH		 UP		 UP	Door		Yes	Retract / Home	YES

Appendix 4

Configuration Switch Settings for Masking Director IMC-300MKII

1 Syntax

Commands are transmitted to Masking Director Controllers using IP or RS-232c connectivity. The below software examples demonstrate connectivity using the direct connections. Refer to Device Driver Toolkit for more information.

http://www.convergingsystems.com/software/inres_programmingdesignkit.php

Note: Select the first download for documentation for MKII (CS-Bus) Device Driver Commands. Select the second download for documentation for legacy BRIC MKI new device drivers commands that are still supported but which lack the depth of control now available with “CS-Bus” command syntax

A Zone/Group/Node (“ZGN”) packet is defined as:

#	Z	.	G	.	N	.	P	=	CC	↵
---	---	---	---	---	---	---	---	---	----	---

# Z	Mandatory; specifies the Zone number (i.e. 0 is broadcast, 1-255 possible zones)
. G	Mandatory; specifies the Group number (i.e. 0 is broadcast, 1-255 possible groups)
. N	Mandatory; specifies the Node number (i.e. 0 is broadcast, 1-255 possible nodes)
. P	Mandatory; Function (see commands listed under “Function” in Table 1 below)
= CC	Mandatory; Function (see commands listed under “Command” in Table 1 below)
↵	Mandatory; specifies a return character

Note: all characters are ASCII UPPER CASE. Wildcard of #0.0.0 sends a “broadcast” to all connected CS-Bus Controllers. Not valid for inquiries.

2 Operational Example

TABLE 2-CS-BUS (ZGN) Commands

Command	Syntax
Motor 1 UP	#1.1.1.MOTOR=UP;↵
Motor 2 DOWN	#1.1.2.MOTOR=DOWN;↵
Motors Group Move to PRESET 1	#1.1.0.MOTOR=RECALL,1;↵
Save current position for Motors as PRESET 2	#1.1.0.MOTOR=STORE,2;↵

Appendix 5

Updating Firmware on IMC-300MKII

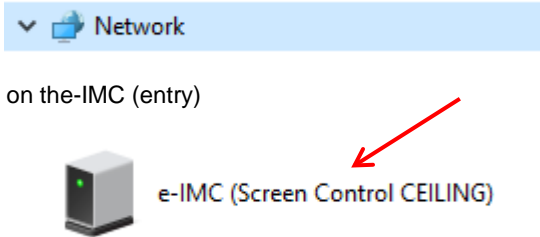
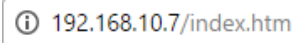

From time to time, new firmware may become available for the IMC-300MKII device. Firmware will be available for both the Ethernet subsystems (e-Node component) as well as for the motor operating software.

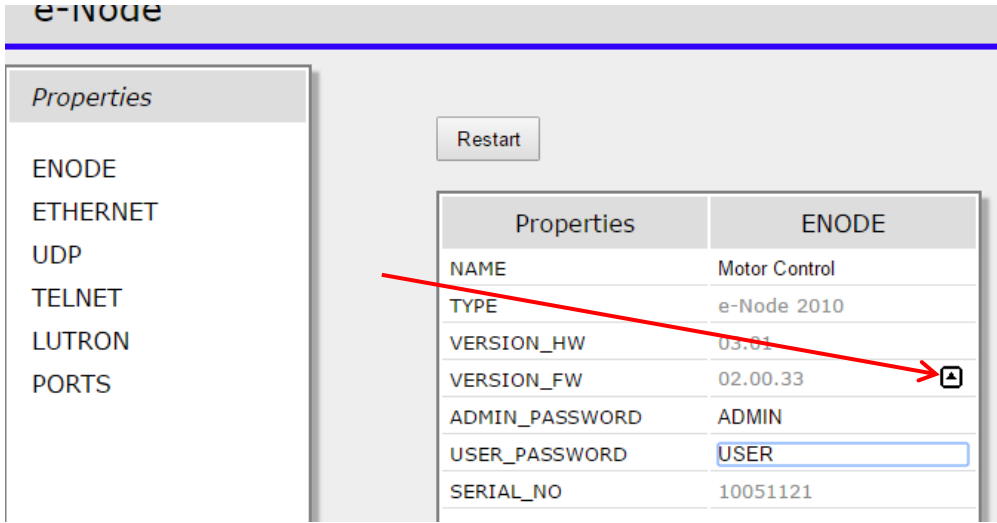
- The directions below under **ENFW** apply to the e-Node upgrade component.
- The directions below under **MOFW** apply to the Motor Subsystems upgrade component.

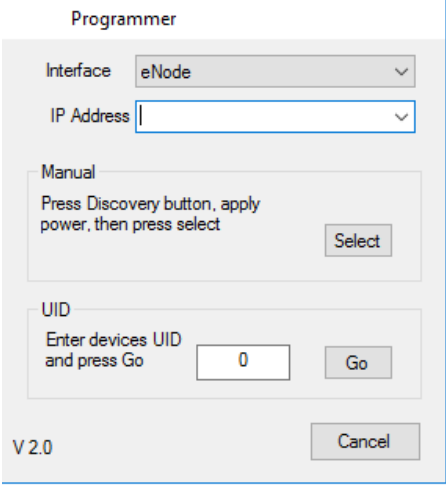
Contact the factory for more information


In order to update the firmware, please follow the steps below:

WARNING: Do not perform this type of operation over a wireless network. Any file corruptions determined to have resulted from wireless operation shall not be considered a warranty repair.

Step	Overview	Detail
ENFW-1	Discover IMC-300MKII	<p>If using a Windows Operating systems, using Windows Explorer, open the Network Tab,</p>  <p>and double click look on the-IMC (entry)</p> <p>Note: The IMC-300MKII Masking Director is currently supported by the Google Chrome™ browser, should your computer use by default an alternative browser simply open the IMC-300 MKII Masking Director discovered above with any browser and if it is not Chrome, simply copy the network address that presents itself at the top of the page into the Google Chrome address bar, open the web page and proceed to the next step.</p> 
ENFW-2	Launch IMC-300 MKII Configuration software (embedded within IMC-300 MKII) controller	<p>Double click on the (i) Stewart Logo or (ii) the Configuration Tab if present</p> 
ENFW-3	Enter appropriate password	<p>Typically and unless otherwise changed, the login password is ADMIN (case sensitive) -Type in ADMIN and select Logon</p>

ENFW-4	Verify the current firmware version	<p>-If the factory has instructed to you upgrade the firmware, select the Update button and follow the instructions.</p>  <p>The screenshot shows the 'e-NODE' web interface. On the left is a 'Properties' sidebar with links for ENODE, ETHERNET, UDP, TELNET, LUTRON, and PORTS. The main area has a 'Restart' button and a table with the following data:</p> <table border="1" data-bbox="917 436 1458 751"> <thead> <tr> <th>Properties</th> <th>ENODE</th> </tr> </thead> <tbody> <tr> <td>NAME</td> <td>Motor Control</td> </tr> <tr> <td>TYPE</td> <td>e-Node 2010</td> </tr> <tr> <td>VERSION_HW</td> <td>03.01</td> </tr> <tr> <td>VERSION_FW</td> <td>02.00.33</td> </tr> <tr> <td>ADMIN_PASSWORD</td> <td>ADMIN</td> </tr> <tr> <td>USER_PASSWORD</td> <td>USER</td> </tr> <tr> <td>SERIAL_NO</td> <td>10051121</td> </tr> </tbody> </table> <p>A red arrow points to a small square icon with a right-pointing arrow in the 'VERSION_FW' row.</p> <p>-The IMC-300MKII will automatically reboot after the upgrade.</p>	Properties	ENODE	NAME	Motor Control	TYPE	e-Node 2010	VERSION_HW	03.01	VERSION_FW	02.00.33	ADMIN_PASSWORD	ADMIN	USER_PASSWORD	USER	SERIAL_NO	10051121
Properties	ENODE																	
NAME	Motor Control																	
TYPE	e-Node 2010																	
VERSION_HW	03.01																	
VERSION_FW	02.00.33																	
ADMIN_PASSWORD	ADMIN																	
USER_PASSWORD	USER																	
SERIAL_NO	10051121																	

Step	Overview	Detail
MOFW--1	Close e-Node Pilot software	In order to update MOT FW, it is necessary to first close the e-Node Pilot software if opened
MOFW-2	Download Stewart Filmscreen provided MO (for firmware) and run unzipped version.	<p>-Download and place on desktop where it can be easily found. -Unzip file if provided in zipped format -Run executable. Your file may look similar to this:</p>  <p>The screenshot shows the 'Programmer' application window. It has the following fields and buttons:</p> <ul style="list-style-type: none"> Interface: eNode (dropdown menu) IP Address: (dropdown menu) Manual: Press Discovery button, apply power, then press select. Includes a 'Select' button. UID: Enter devices UID and press Go. Includes a text input field with '0' and a 'Go' button. Buttons: 'Cancel' and 'V 2.0' (version indicator). <p>-Select from the pulldown box the IP address of the (embedded e-Node) within our IMC-300MKII device.</p>

		<p>ILC-400 Programmer</p> <p>Interface <input type="text" value="eNode"/></p> <p>IP Address <input type="text" value="192.168.10.6 (Motor Control)"/> </p> <p>Manual</p> <p>Press Discovery button, apply power, then press select</p> <p><input type="button" value="Select"/></p> <p>UID</p> <p>Enter devices UID and press Go</p> <p><input type="text" value="0"/> <input type="button" value="Go"/></p> <p>V 2.0 <input type="button" value="Cancel"/></p>	
--	--	--	--

-Next select the Select button and the firmware will be automatically upgraded.

Appendix 6

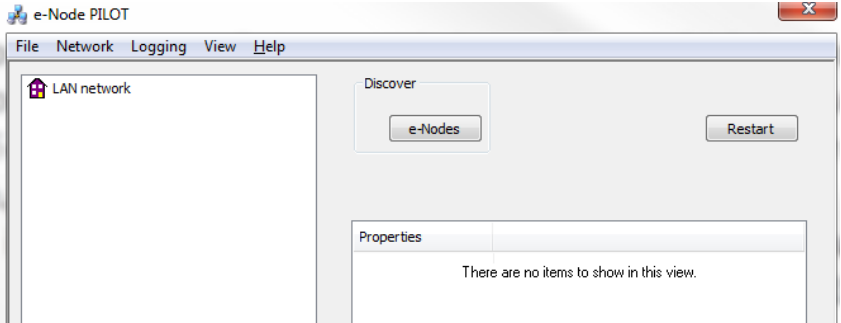
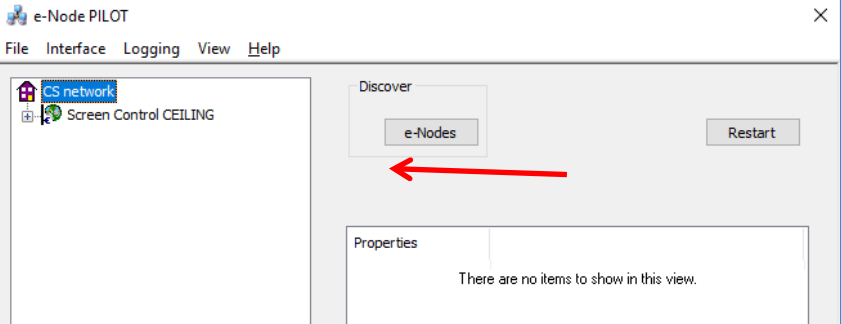
Customizing Firmware on IMC-300MKII

(advanced operation only recommended for thoroughly trained personnel)

IMC-300MKII Programming (for both EM and SL versions, or for EM versions repurposed as SL versions)

Min. requirements for this operation

- Computer running Windows XP or later OS, preferably with a wired Ethernet connection to a local router using CAT5 type cabling
- Ethernet Connection between IMC-300MKII and local Ethernet Switch
- Ethernet Connection between local Ethernet Switch and computer running e-Node Pilot software application.
- Download of the latest version of [e-Node Pilot application](#), unzipped and operating on your computer platform

Step	Setting	Choices
EN-1	<p>e-Node IP Address setting</p> <p>Set up the e-node with an appropriate Static or Dynamic IP address.</p>	<p>Static or Dynamic Addressing</p> <p>-Launch the e-Node Pilot application.</p>  <p>-Select the View e-Node tab and select the Discover e-Node button. Any IMC-300MKII connected on the same network will appear as shown.</p>  <p>-Select the + mark in front of the e-Node found to expand the menu.</p>

-Review the **DHCP** entry, the factory default is ENABLE which means **DHCP** is activated. DISABLE for **DHCP** refers to static IP addressing. If you wish to set a **STATIC** IP address, enter the following variables *in the order specified below*:

STATIC_IP	xxx.xxx.xxx.xxx	Your new static IP address
GATEWAY_ADD	xxx.xxx.xxx.xxx	Typically, the address of your network's gateway
FINALLY and only after you have set the above variables, select DHCP	And Set to DISABLE	Now reboot the IMC-300MKII for this to take effect.

-**Note:** It is recommended that only STATIC addressing be used with the RTI processors.

EN-2 Reserved

Motor Control Programming

Step	Setting	Choices									
DV-1	Discover Devices	<p>Background. Provided a DIP switch has been set within Appendix 3, IMC-300MKII controllers from the factory will auto-populate with a specific shorthand name for any "devices" discovered. Within Figure 5 below, the ATBEMH configuration has been set through DIP switches and that "alias" name will appear.</p> <p>However, if a new motor configuration is desired that has not been factory programmed (and therefore not selectable) though a pre-programmed DIP switch setting, a generic "alias" name or placeholder UID will appear. Within Figure 5 below, the "alias" name of TEST (or similar) will appear.</p> <table border="1"> <thead> <tr> <th>DIP SWITCH SETTING</th> <th>Alias Name that will appear when devices are discovered</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>IF set to ALL OFF</td> <td>Test or similar generic</td> <td>See arrow "A" below</td> </tr> <tr> <td>IF set to some other setting (as in Appendix 3)</td> <td>Customized alias name</td> <td>See arrow "B" below</td> </tr> </tbody> </table>	DIP SWITCH SETTING	Alias Name that will appear when devices are discovered	Reference	IF set to ALL OFF	Test or similar generic	See arrow "A" below	IF set to some other setting (as in Appendix 3)	Customized alias name	See arrow "B" below
DIP SWITCH SETTING	Alias Name that will appear when devices are discovered	Reference									
IF set to ALL OFF	Test or similar generic	See arrow "A" below									
IF set to some other setting (as in Appendix 3)	Customized alias name	See arrow "B" below									

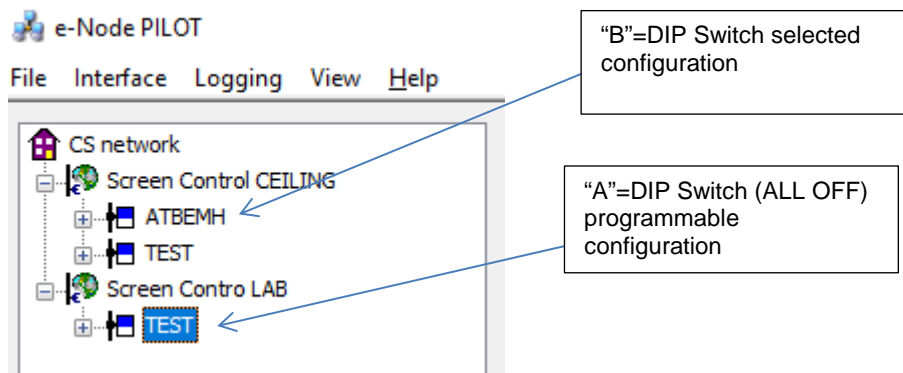


Figure 14

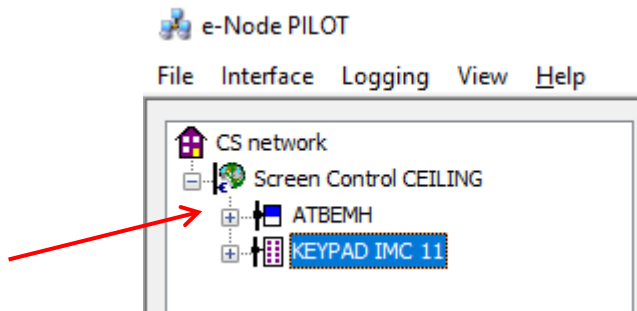
-For a test (and to subsequently set up customized settings), set all DIP switches to OFF, and reboot the IMC-300MKII,

-Select the Discover **e-Node** button (again because of the reboot) and then the Discover **Devices** button.

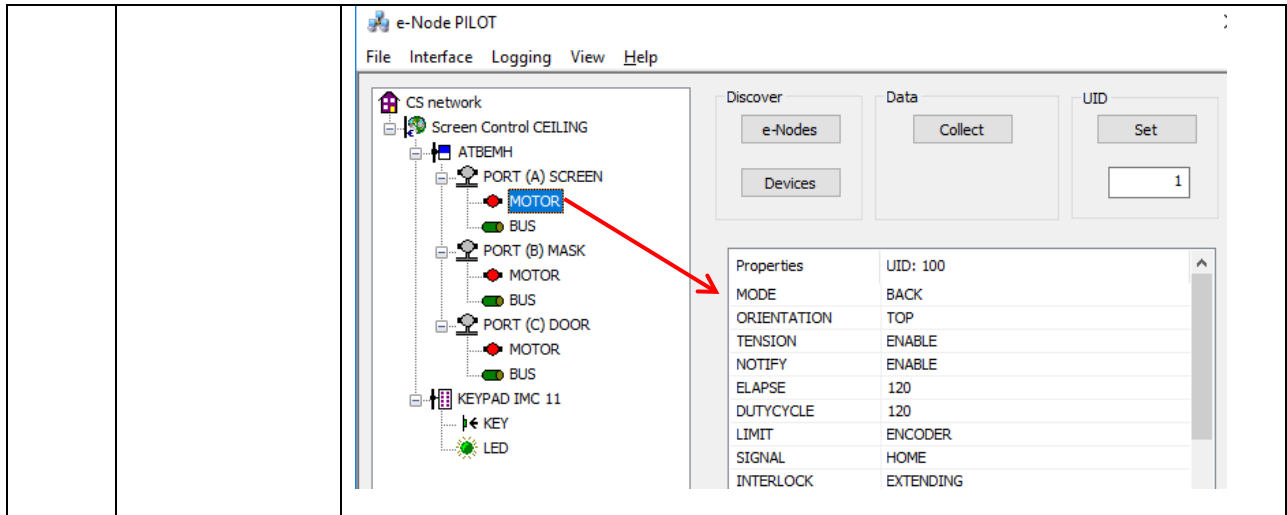
Note: there is an e-Node within the IMC-300MKII and that is for what the **Discover e-Node** button is searching.

It is necessary that all devices (motor controllers) are (i) discovered and (ii) expanded before additional programming is possible.

-Select the "+" mark in front of each Device to expand the data fields/.



After you select the "+" mark the following expanded set of data fields becomes visible.

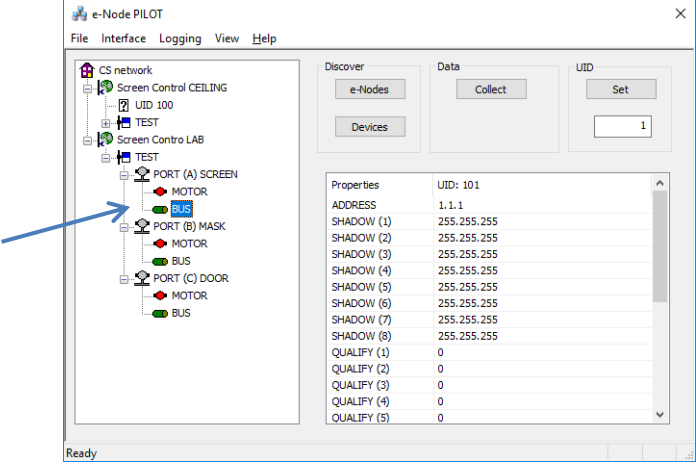


DV-2

Enter Z/G/N Addresses

From the factory, the **ILC-x00** controllers have wildcard Zone/Group/Node address of **Zone=2, Group=1, and Node=undefined** or a 0. Motor controllers have a similar wildcard address of **Zone=1, Group=1, and Node=undefined** or a 0. The concept is that they will respond to broadcasts but need a real non-zero address in order to operate properly. The following procedure demonstrates this process.

-Enter a discrete **Zone/Group/Node** address for each Motor Controller **Port** identified above—each should be unique. These addresses should be entered under the “**BUS**” tab.



Typically, the addresses should be set as follows:

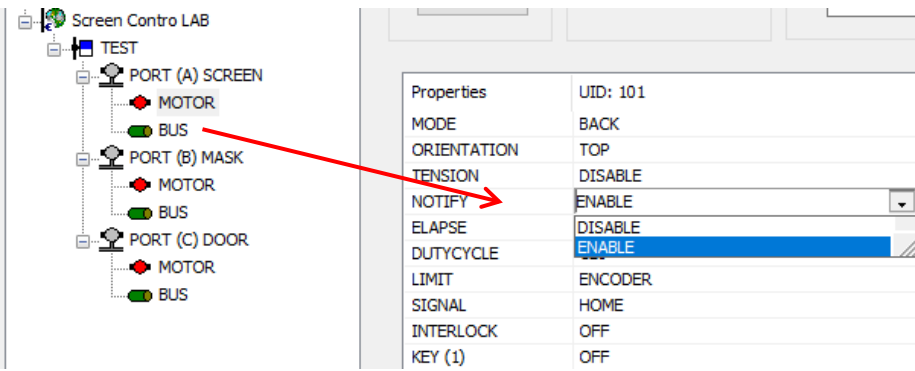
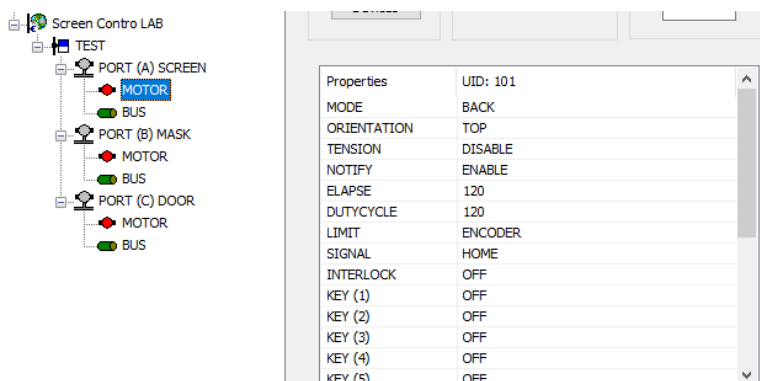
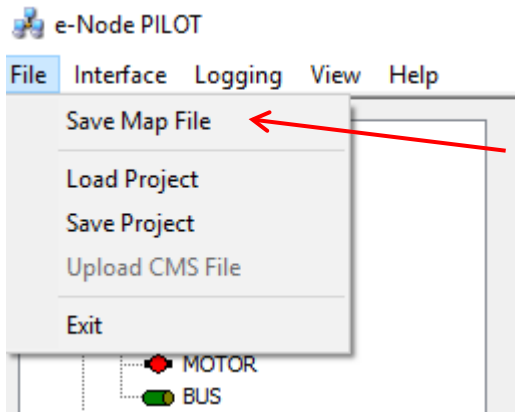
Port	Address (Z/G/N)
Port A	1.1.1
Port B	1.1.2
Port C	1.1.3

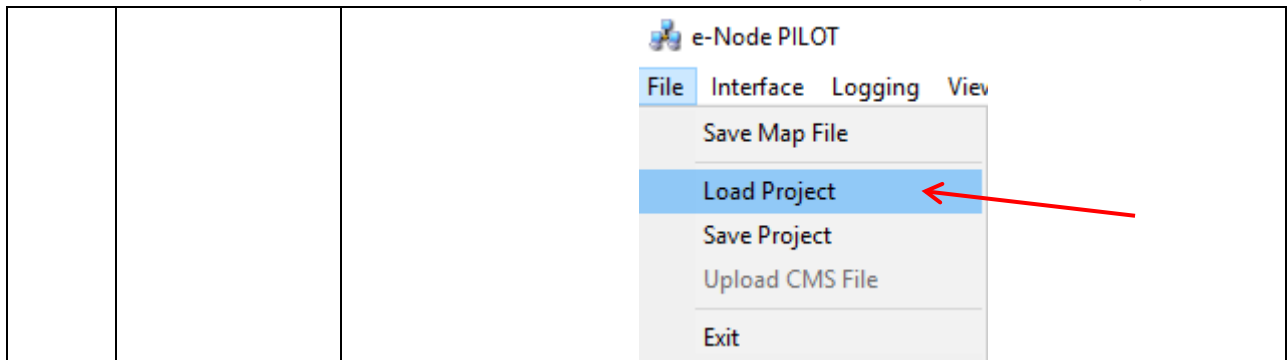
- Enter the Zone/Group/Node address separated by **PERIODS** and hit **ENTER**. When the field turns BLUE you know the data has been successfully entered.

DV-3

Set Notify Mode

In order to invoke bi-directional communication for the ability for the control system’s dimmer sliders to automatically respond to changes in motor position states (a really cool feature), set the **NOTIFY** Flag to either **ENABLE**

		 <p>Note: Currently because of the newness of the IMC-300MKII most devices drivers in the field will not support this type of bi-directional feedback. Contact your integration vendor to log in a request for this type of upgrade.</p>
DV-4	Set Remaining Configuration Variable for all Motors	<p>Background. Many variables exist for customized motor control. Please refer to additional documentation provided for background on these variables.</p> <p>Here are just some examples of new data variables that can be programmed.</p> 
DV-5	Save variable so that they can be retrieved/reused in the future	<p>-Select File/Save Map File and name appropriately.</p>  <p>Note: To “reinstall” saved Map file, simply Select Load Project, and navigate to file that was previously stored.</p>



Appendix 7 Specifications

<i>Voltage</i>	<i>100-240vAC</i>
<i>Function</i>	<i>Networkable 3-channel Motor Control with Intelligent door control</i>
<i>Processing</i>	<i>Built-in motor processor</i>
<i>Control Type</i>	<i>RJ-25 for intelligent keypads RJ-45 for external Internet Protocol RJ-45 for use with external dongle for RS-232c communication 4-Pin connector for external STI connections</i>
<i>Control</i>	<i>CS-Bus motor control command set Note: Legacy Stewart BRIC II command set also supported</i>
<i>Screen Trigger Interface</i>	<i>2 channels (typically channel 1 is for ON condition and Channel 2 is for alternative aspect ratio).</i>
<i>RS-232c Connection</i>	<i>Through on-board RJ-45 connector (and external dongle)</i>
<i>Motor AC Connectors</i>	<i>Three separate Motor Channels. Channels A and B are associated with digital encoding circuitry for masking purposes. Channel C is an analog channel typically for door operation.</i>
<i>Motor Compatibility</i>	<i>Up to three (3) 1/3 hp AC motors running at 100 to 240 volts. Note: motor voltage must match AC mains input.</i>
<i>Compliance</i>	<i>ETL Listing to UL 325, FCCA, CE, RoHS</i>
<i>Dimensions</i>	<i>5.9" (15cm) x 3.93" (10cm) x 3.54"(9 cm)</i>
<i>Weight</i>	
<i>Manufacturing Origin</i>	<i>Designed and Manufactured in the United States</i>