CONCEALED & FULL SURFACE ETW/RETW – Electric Through Wires

Door and Frame Preparation

For grout filled frame, install a Mortar Box (HAGER 430). Failure to do so will void the hinge warranty.
Refer to Table and Figures below for your particular ROTON Hinge model.

1. Drill a 1/2" (5/8" max for Quick Connects) diameter access hole in both the frame rabbet and the door edge for a Concealed Hinge or in the frame and the door face for a Full Surface hinge at the proper location for the wire leads. (12-wire model Concealed Hinges will require two drilled holes in both the frame and door.)
2. After drilling, deburr the holes to prevent damage to the wire leads.

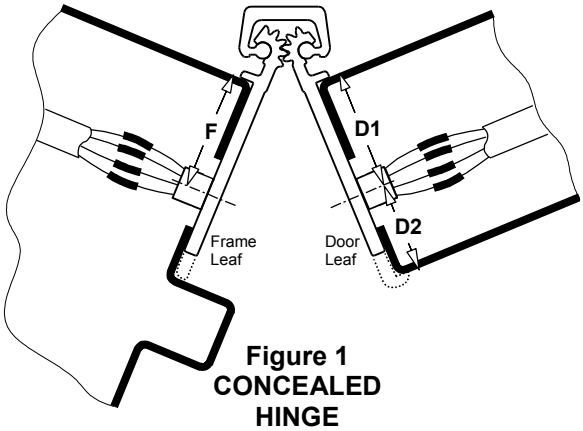


Figure 1 CONCEALED HINGE

HINGE MODEL	TYPE	F	D1	D2
780-111	Concealed	15/16"	13/16"	-
780-112	Concealed	15/16"	15/16"	-
780-124	Concealed	15/16"	-	7/8"
780-224	Concealed	15/16"	-	7/8"
780-226	Concealed	15/16"	15/16"	-
780-057	Full Surface	1/2"	1/2"	-
780-157	Full Surface	7/16"	1/2"	-

Table 1

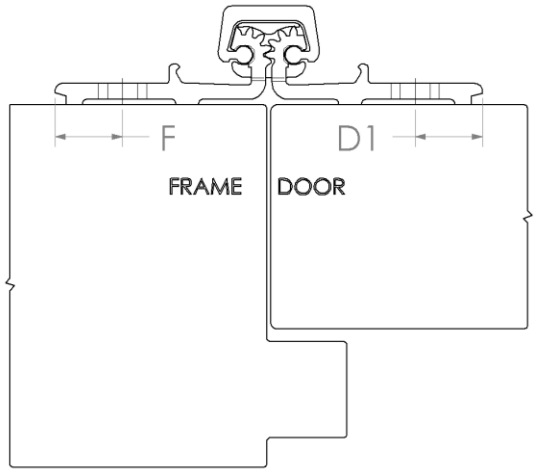


Figure 2 – 780-057 HINGE

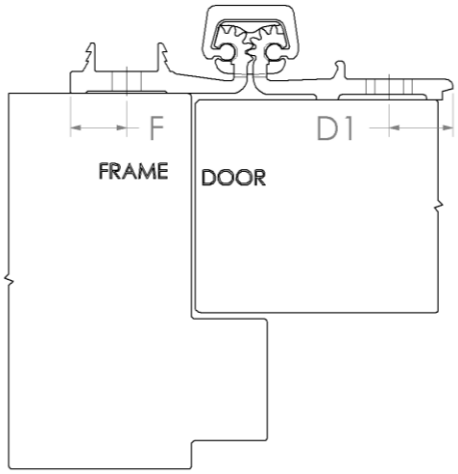
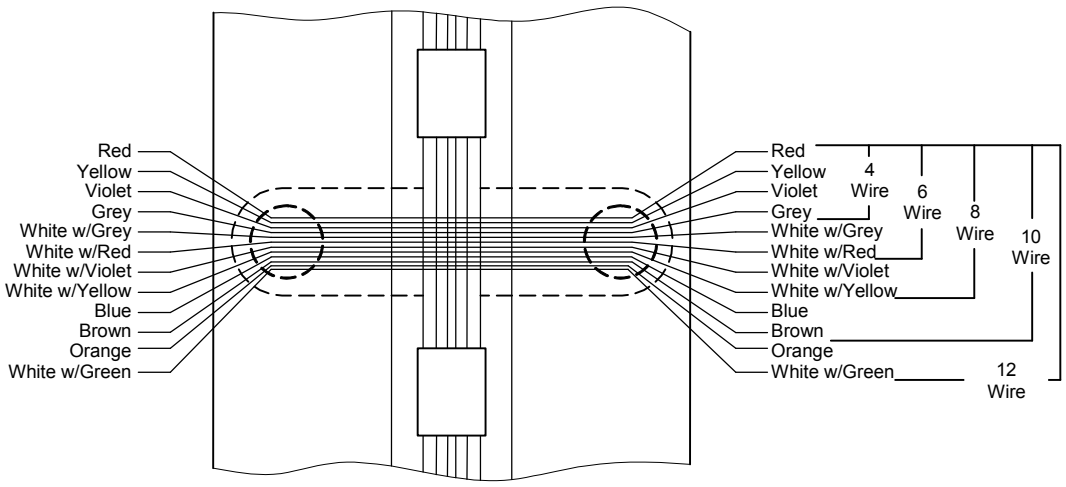


Figure 3 – 780-157 HINGE

Installation

Prepare the door and frame for installation using the standard installation instruction sheet furnished with the hinge, but do not attach the hinge at this time.

1. Connect the system wires from the door to the appropriate leads of the hinge door leaf (as described in the system wiring diagram). See Figure 4. Insulate the bare end of any unused wires.
2. Carefully slide the wires back through the access hole in the door making sure they are placed so they will not be cut or pinched as installation is completed. Attach the hinge to the door per the standard installation instruction sheet supplied with the hinge.
3. Position the door at 90 degrees to the frame and connect the system wires from the frame to the appropriate leads of the hinge frame leaf. See Figure 4. Insulate the bare end of any unused wires.
4. Carefully slide the wires back through the access hole in the frame making sure they are placed so they will not be cut or pinched as installation is completed. Attach the hinge to the frame per the standard installation instruction sheet supplied with the hinge.



MAXIMUM ELECTRICAL RATING CONTACT
Volts: 30V dc/ac
Amperes: 3.5A Continuous
16A Pulse (300ms)

Figure 4

Recommended: For current ratings greater than 1.0A, use two or more wires in parallel. Make sure same colored wires are connected properly on both sides of hinge.

EMN – Concealed Magnetic Switch

Door and Frame Preparation

For grout filled frame, install a Mortar Box (HAGER 430). Failure to do so will void the hinge warranty.
Prepare the door and frame for installation using the standard installation instruction sheet furnished with the hinge, but do not attach the hinge at this time.

1. Locate the wired switch assembly. Peel the adhesive liner from the face of the flange. Attach it in the counter bore on the back of the hinge leaf that will be mounted to the *frame*. See Figure 5.
2. Locate the magnet assembly. Peel the adhesive liner from the face of the flange. Attach the magnet assembly in the counter bore on the back of the hinge leaf that will be mounted to the *door*. See Figure 5.
   Use a 5/32" hex key for the initial switch trigger point. For an approximate 2" door opening trigger gap (for 36" wide door):
   - Rotate the switch body eight (8) turns counter-clockwise from its full seated position
   - Rotate the magnet two (2) turns counter-clockwise from its fully seated position.
   - Test the door opening gap before installing all screws and adjust the switch and magnet as required for the desired gap trigger point.
   - Turn the switch and/or magnet counter-clockwise to *decrease* the door gap trigger point.
   - Turn the switch and/or magnet clockwise to *increase* the door gap trigger point.
3. Drill a 3/4" diameter access hole in both the frame rabbet and the door edge at the proper location for the switch and magnet.
   If a shim is utilized in the installation of the hinge, drill a corresponding 3/4" diameter access hole in the shim also. If there is a gap in the shim where the switch or magnet is located, the gap must be no greater than 3/4" so as to provide support for the plastic flange.
4. After drilling, deburr the holes to prevent damage to the wire leads.

Installation

1. Attach the hinge to the door per the standard installation instruction sheet supplied with the hinge.
2. Connect the system wiring to the appropriate leads of the switch. See Figure 5. Insulate the bare end of any unused wires.
3. Carefully slide the wires back through the access hole making sure they are placed so they will not be cut or pinched as installation is completed. Attach the hinge to the frame per the standard installation instruction sheet supplied with the hinge.
4. Certain factors (frame thickness, door thickness, reinforcements, door material) can slightly affect the sensitivity of the reed switch after installation. Check the circuit to make certain the switch is opening and closing as

desired. If necessary, turn the adjustment setscrew in or out to overcome these factors (see Door and Frame Preparation, Step 2). The door must be removed to adjust the magnet.

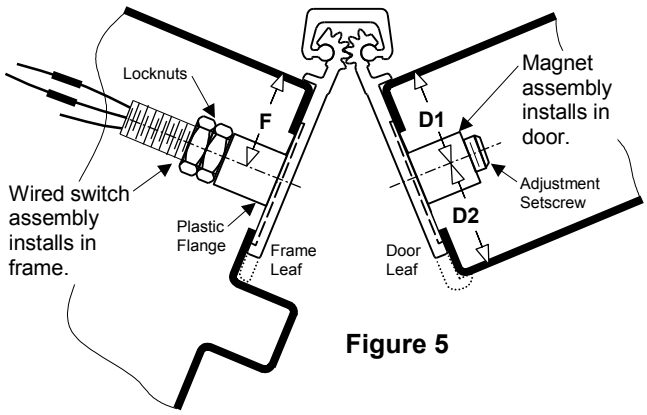
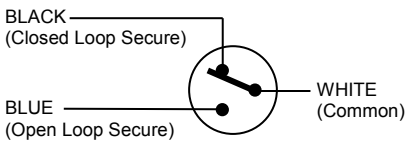


Figure 5

HINGE MODEL	F	D1	D2
780-111	1”	7/8”	-
780-112	7/8”	7/8”	-
780-124	15/16”	-	7/8”
780-224	15/16”	-	7/8”
780-226	1”	1”	-

CLOSED LOOP SECURE
(Use black and white switch wires.)
Closed Loop Secure hinges are wired so that when the door is closed (secured) the EMN switch is closed (passes current). When the door opens, an open circuit is detected as an alarm.

OPEN LOOP SECURE
(Use blue and white switch wires.)
Open Loop Secure hinges are wired so that when the door is closed (secured) the EMN switch is open (does not pass current). When the door opens, a closed circuit is detected as an alarm.



SWITCH INFORMATION
Voltage Rating: 200VDC
Current Rating: 500mA
Switch Function: SPST-NO