# 3800 Series Electric Mortise Lock Electrical Specifications and Supplemental Instructions

**I-LS02200**

## FUNCTION DESCRIPTION

3880EL - Fail Safe Control
Outside trim is locked when power is applied and unlocked when power is removed (storeroom function when energized). Lockset will unlock in the event of a power failure.

3880EU - Fail Secure Control
Outside trim is unlocked when power is applied and locked when power is removed. Lockset will lock in the event of a power failure. This is the default lock setup.

Note: 3882 will function the same as the 3880EL / EU, but both sides will lock/unlock simultaneously.

Key Function
When key cylinders are installed into locks, the latch bolt may be momentarily retracted from the outside with key even if lockset is electrically locked.

Latch Bolt Monitoring
Latch Bolt Monitoring (LM) is a SPDT switch that is mounted inside the lockset. The LM switch monitors the full extension of the main latch.

Request to Exit
Request to Exit (RX) is a SPDT switch that is mounted inside the lockset. The RX switch monitors the activation of the inside trim when the lockset is in the locked position only.

Door Position Monitoring (DPM)
Door Position Monitoring is a SPDT magnetic reed switch that is mounted in lock body and reacts with a magnet in the strike to monitor if the door is in the closed position.

## ELECTRICAL SPECIFICATIONS

### EL and EU

Motorized Locking / Unlocking at 12/24V operation with low power consumption

Voltage: 12-24V AC/DC (11V – 30V)
Current: 250 mA MAX Inrush, 10 mA MAX holding
Non-polarized leads
Fail Secure by Default

| 2-Conductor Wire Run | |
|---|---|
| **Distance 12V/24V** | **Wire Gauge** |
| 125'/250' | 22 |
| 200'/400' | 20 |
| 300'/600' | 18 |
| 500'/1000' | 16 |
| 750'/1500' | 14 |
| 1250'/2500' | 12 |

### RX and LM

SPDT mechanical switch. Mainly used as a dry contact monitoring switch.

| Voltage | Current |
|---|---|
| 125 VAC | 3 AMP |
| 30 VDC | 2 AMP |

RX Wiring Diagram
Yellow Wire: (common)
Red Wire: (normally open)
Gray Wire: (normally closed)

LM Wiring Diagram
Black: (common)
Red: (closed loop secure)
White: (open loop secure)

### DPM

SPDT Magnetic Reed Switch (used as a dry contact monitoring switch)

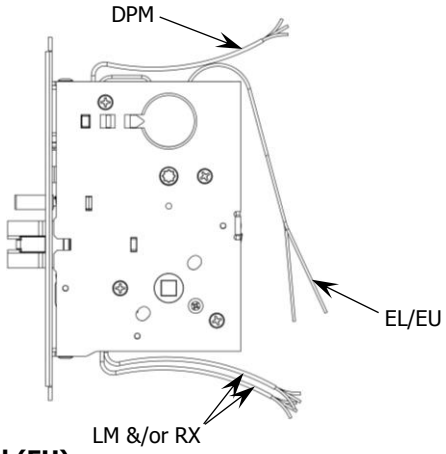
Voltage: 28 VDC
Current: 0.300 A

DPM Wiring Diagram
WHITE WIRE – (COMMON)
RED WIRE – (OPEN LOOP SECURE)
GREEN WIRE – (CLOSED LOOP SECURE)

**Quick Connect Assignments**: See page 4 for detailed pinning information

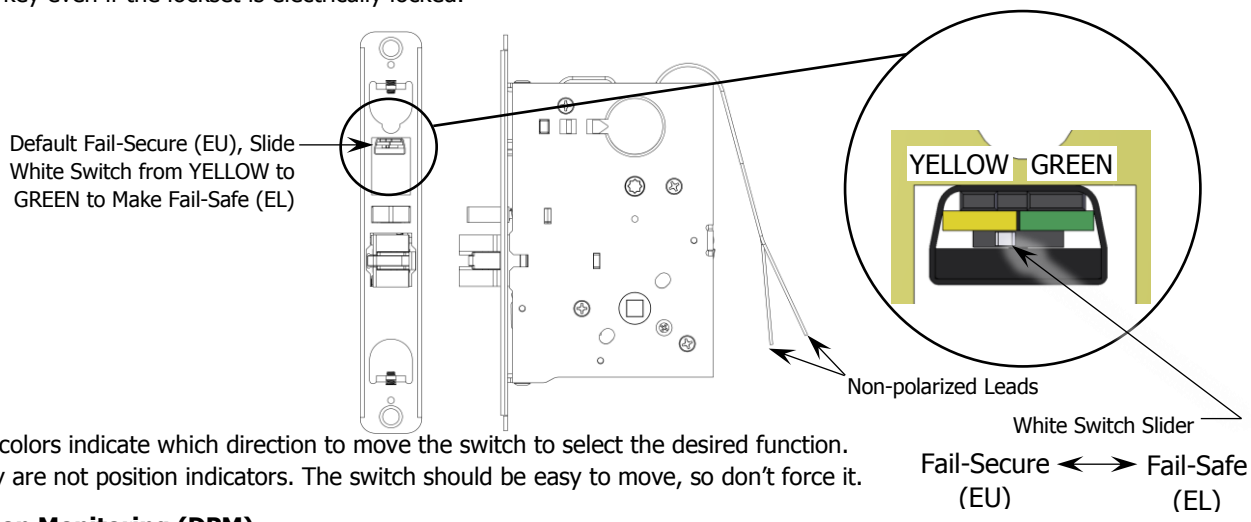
**Wire Bundles**:

See below for general location of wire bundles. Some or all of the bundles may be present depending on the functions ordered. When wiring up, use wire color within the bundle to identify function (see page 1 for function / wire details).




**Electrically Locked (EL) / Electrically Unlocked (EU)**

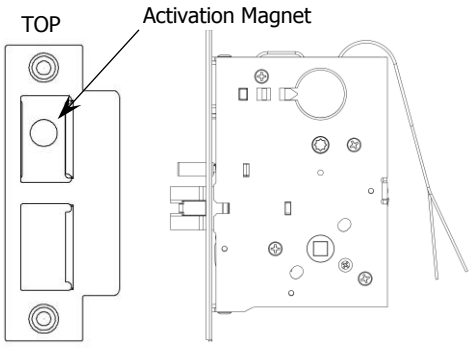
This function comes EU by default, but can be easily changed to EL by sliding the White switch from YELLOW to GREEN as shown below. The unit must have power applied at least once before the lockset changes state. Note that the latch bolt may be momentarily retracted by key even if the lockset is electrically locked.



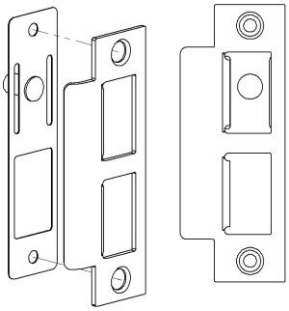

**NOTE**: The colors indicate which direction to move the switch to select the desired function. They are not position indicators. The switch should be easy to move, so don't force it.

**Door Position Monitoring (DPM)**

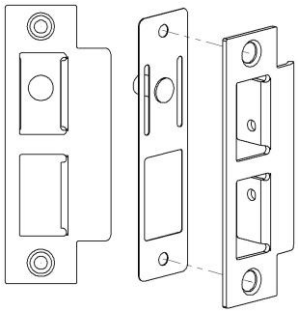
Door position monitoring is an SPDT magnetic reed switch mounted inside the lockset with the activation magnet mounted behind the ANSI strike plate. The magnet is positioned above the latch bolt, so orient the magnet plate per handing of opening to properly position the magnet (see below for orientation).




LEFT HAND STRIKE PLATE



RIGHT HAND STRIKE PLATE



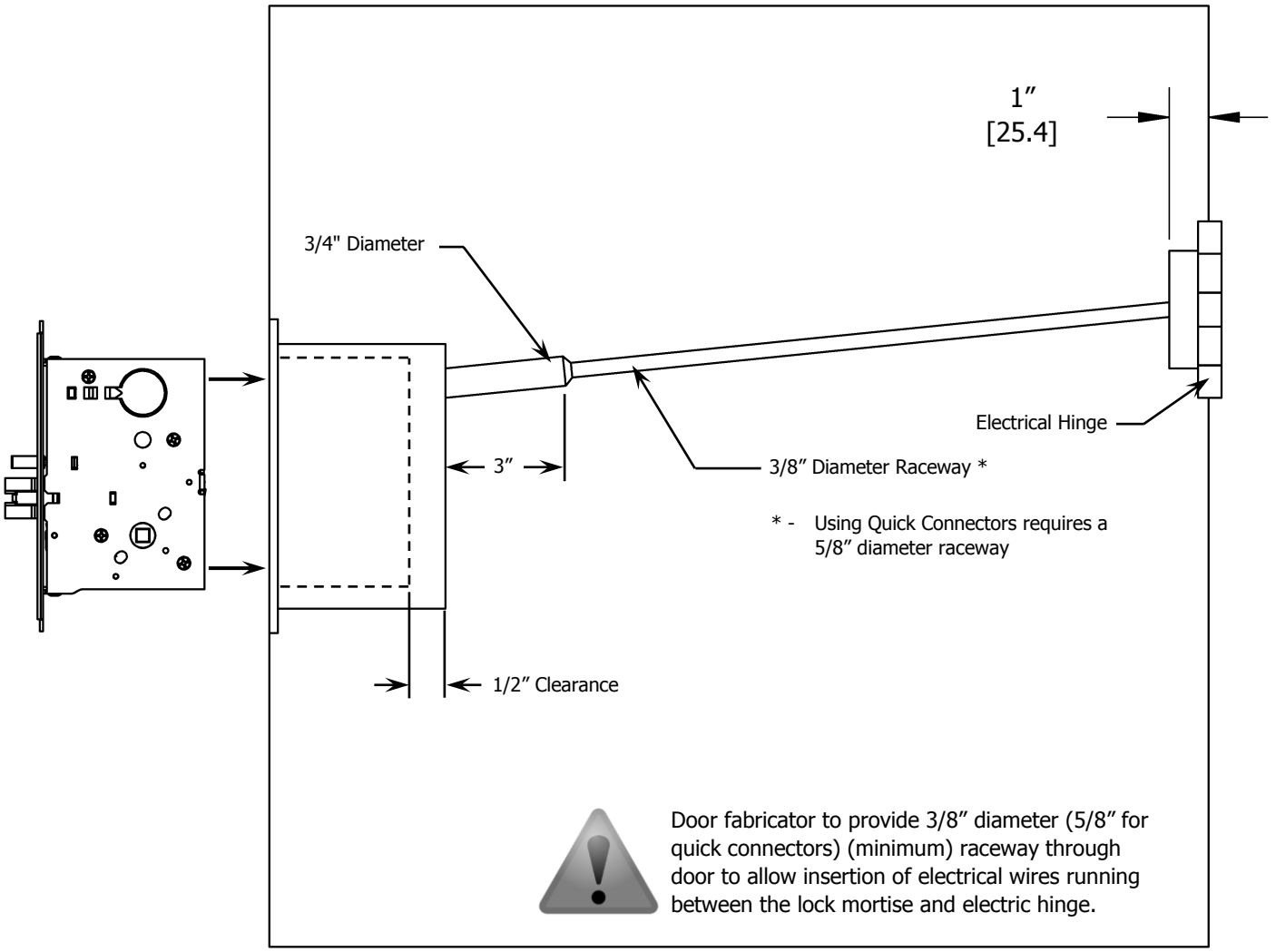
INSTRUCTIONS

Door and Frame Preparations

1. Follow mortise lock instructions and template to prepare door and frame for installation. Add ½" depth to the mortise pocket as shown below. Since motor control is located inside the lockset, there are no special preparations or alterations to the standard installation.

Door Raceway Preparations

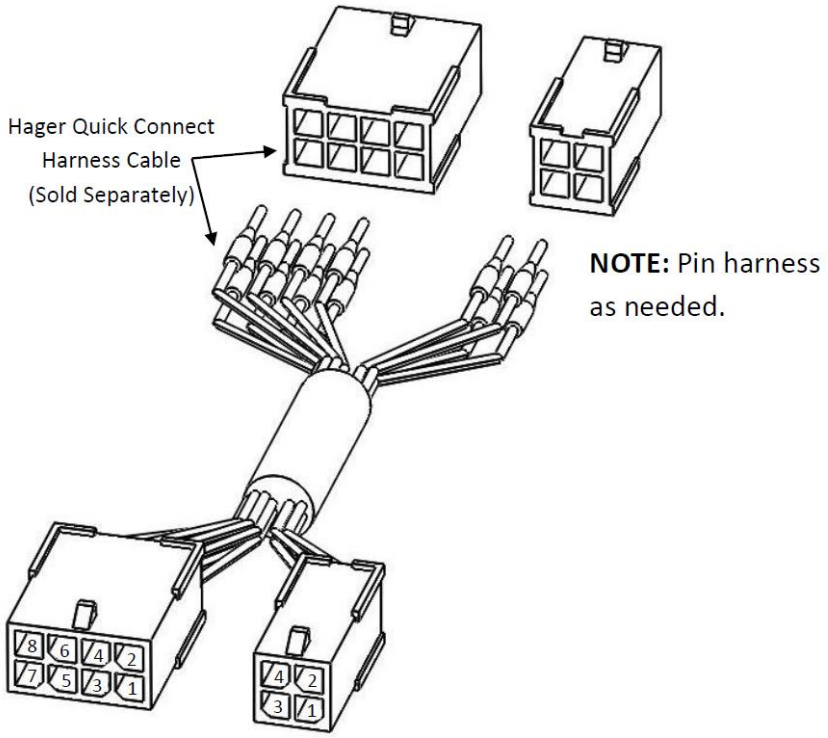
1. Door raceway preparations are required to route electrical wires. See diagram below for raceway specifications.
2. Follow mortise lock instructions and template to complete installation.

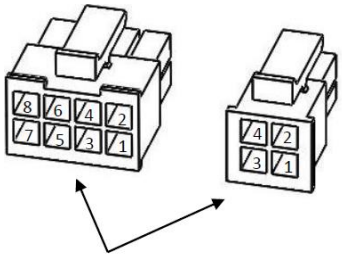


**QUICK CONNECTS**

- Quick connects are installed on the wires from the mortise lock electrification options. These quick connects are compatible with Hager Quick Connect Harness Cable which can be used to plug into Hager hinges with quick connects to provide quick and accurate wiring of the door.

| Quick Connect Harness Cable Pinning | |
|---|---|
| **8 Pin** | **Wire Color** |
| Pin #1 | Black |
| Pin #2 | Red |
| Pin #3 | White |
| Pin #4 | Green |
| Pin #5 | Orange |
| Pin #6 | Blue |
| Pin #7 | Brown |
| Pin #8 | Yellow |
| **4 Pin** | **Color** |
| Pin #1 | Violet |
| Pin #2 | Gray |
| Pin #3 | Pink |
| Pin #4 | Tan |



Hager 3800 Mortise Lock
Quick Connect Terminals

| 3800 Quick Connect Pinning | | |
|---|---|---|
| **8 Pin** | **Function** | **Wire Color** |
| Pin #1 | Power* | Blue |
| Pin #2 | Power* | Blue |
| Pin #3 | RX (Com) | Yellow |
| Pin #4 | RX (N/O) | Red |
| Pin #5 | RX (N/C) | Gray |
| Pin #6 | DPM (Com) | White |
| Pin #7 | DPM (N/O) | Red |
| Pin #8 | DPM (N/C) | Green |
| **4 Pin** | **Function** | **Color** |
| Pin #1 | Blank | Blank |
| Pin #2 | LM (Com) | Black |
| Pin #3 | LM (N/O) | White |
| Pin #4 | LM (N/C) | Red |