Instructional Leaflet **IL03902001E**
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S811 quick installation guide

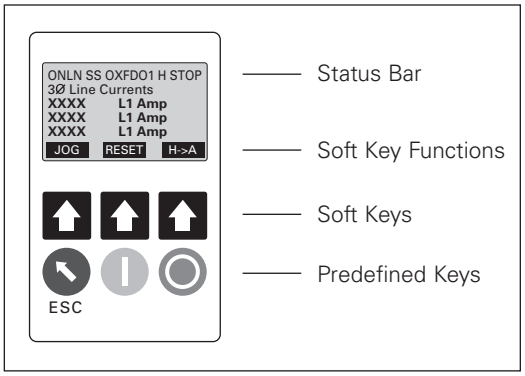

Figure 1. Digital Interface Module (DIM)—Display Mode

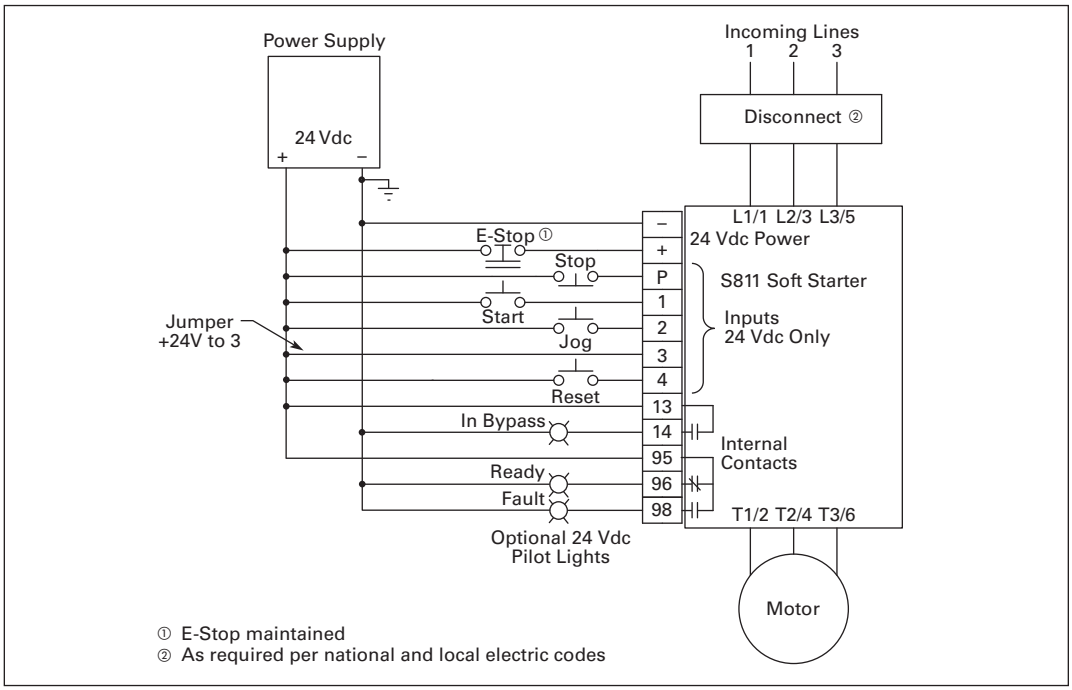

Figure 2. Typical Wiring Diagram

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Table 1. Settings for Typical Applications

Parameter	Factory Setting	Pump ①	Fan	Unloaded Conveyor	Rock Crusher	Saw	Compressor
Configuration Menu							
Overload trip FLA	21	Motor FLA	Motor FLA	Motor FLA	Motor FLA	Motor FLA	Motor FLA
Overload trip class	5	20	20, 30	20	30	30	20
Start method	0 (voltage ramp)	3 (pump control)	0 (voltage ramp)	0 (voltage ramp) ②	0 (voltage ramp) ②	0 (voltage ramp) ②	0 (voltage ramp) ②
Soft start time	20	20	40	20	30	30–50	10
Initial torque	25	55	65	50	70	65	45
Kick start time	0	0	0	0	85	0	0
Kick start torque	0	0	0	0	2	0	0
Soft stop time	0	N/A	0	Load dependent	0	0	2
Pump stop time	120	30	0	0	0	0	0, 2 ③
Start control	Level	Level	Level	Edge	Edge	Edge	Level
Protections Menu							
Phase imbalance fault	Enabled	Enabled ④	Enabled ④	Enabled ④	Enabled ④	Enabled ④	Enabled ④
Phase sequence	ABC	ABC	ABC	ABC	ABC	ABC	ABC
Motor rated voltage	480	Rated system voltage	Rated system voltage	Rated system voltage	Rated system voltage	Rated system voltage	Rated system voltage

① Starter must be ordered with pumping software installed.

② A value of one (current limit start) may be selected for this application, but longer starting times and constant loads should be observed when starting.

③ Two second stop time must be set if this is an ammonia compressor application.

④ Customers operating equipment on either ungrounded systems or high resistance grounded systems may need to adjust the severity and/or duration of imbalance protection. These power systems periodically experience phase angle shifts that can be picked up as a false imbalance trip.

FLA setting calculation

The FLA setting is a function of the product of the motor nameplate full load amperes (FLA) and a multiplier from the service factor multiplier (SF) in **Table 2** below.

FLA setting = Motor FLA x SF multiplier

For example, an S811R13N3S with a 100A, 1.15 service factor motor should have an FLA setting of 115 (100 x 1.15).

Please refer to sizing charts in product user manual, MN03902002E, or call 877-ETN-CARE (386-2273) for assistance in sizing a soft starter for specific applications.

Table 2. FLA Ranges

Frame Size	FLA Current Range	Catalog Number
N (65 mm)	11–37	**S811N37N3S**
	20–66	**S811N66N3S**
R (110 mm)	32–105	**S811R10N3S**
	42–135	**S811R13N3S**
T (200 mm)	56–180	**S811T18N3S, S811T18V3S**
	75–240	**S811T24N3S, S811T24V3S**
	95–304	**S811T30N3S, S811T30V3S**
U (200 mm)	112–360	**S811U36N3S**
	131–420	**S811U42N3S**
	156–500 ①	**S811U50N3S**
V (290 mm)	112–360	**S811V36N3S, S811V36V3S**
	131–420	**S811N42N3S, S811V42V3S**
	156–500	**S811N50N3S, S811V50V3S**
	203–650	**S811N65N3S, S811V65V3S**
	225–720	**S811N72N3S, S811V72V3S**
	265–850	**S811N85N3S, S811V85V3S**
	310–1000	**S811V10N3S**

① 500A rating does not have IEC certification.

Wiring and control check list for operating through the control terminal block

- ❑ A jumper is installed between terminals P and 1 for two-wire control (e.g., RUN/STOP toggle switch or PLC control)
- ❑ 24V power supply meets minimum requirements (55 watt steady-state, 240 watt inrush for 180 ms, 30 Vdc maximum.)
- ❑ Control power wire for the positive and negative terminals is 14 AWG or larger
- ❑ Control wire length less than 100 feet
- ❑ 24V is supplied to pin 3 on the control terminal block if controlling through these terminals is desired

Power wiring check list

- ❑ 24 Vdc control voltage will be applied to terminal P
- ❑ Phase sequence is correct (ABC); otherwise, soft starter will trip on phase reversal
- ❑ If output isolation contactor is used, it cannot open until the soft starter stops to prevent a low current trip

After completing the above, apply line power, apply 24 Vdc control voltage, and then initiate start signal to energize motor.

Check list—settings—special applications

- ❑ You may improve performance if operating on generator power by setting the kick start time to 2 seconds and kick start torque to half the value of the initial torque setting. This creates a step loading effect of the generator, allowing the governor to regulate the power demand of starting larger motors.

Troubleshooting

For additional setting details, refer to the S811 User Manual MN03902002E available at www.eaton.com/electrical.
For technical questions, please contact EatonCare at 877-ETN-CARE (386-2273).

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