

COIL-LOCKER

(AC M/C Chattering Protection Device)



- EN61326-1 · EN55011:2009/A1:2010
- EN55011:2016/A1:2017Group1[Class A]
- SEMI F47 & IEC61000-4-11 Sag Immunity Certificate



Jaeshininformation Co., Ltd

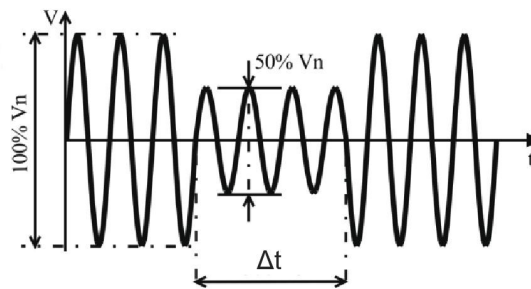
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COIL-LOCKER (AC M/C Chattering Protection Device)

It is a device that can prevent failure or interruption of production facilities due to M/C chattering (contact shaking) and trip in the event of an instantaneous voltage drop, and has excellent reliability.

■ M/C Chattering (contact shaking), Cause of trip

Occasionally instantaneous voltage drops (Sag, Dip) in the grid during electrical equipment failure, storm, lightning or ground failure.



■ Problems when M/C chattering (contact shaking) occurs

- M/C contact arc and opening/closing ground occurrence : Control board damage
- Inrush current and overcurrent occurrence :
 - Facility fuse off and inverter fault (IGBT burnout)
 - Reduced coil insulation resistance of motor due to large impact current on motor coil (shortened facility life)
- Reduced productivity and significant increase in facility maintenance costs

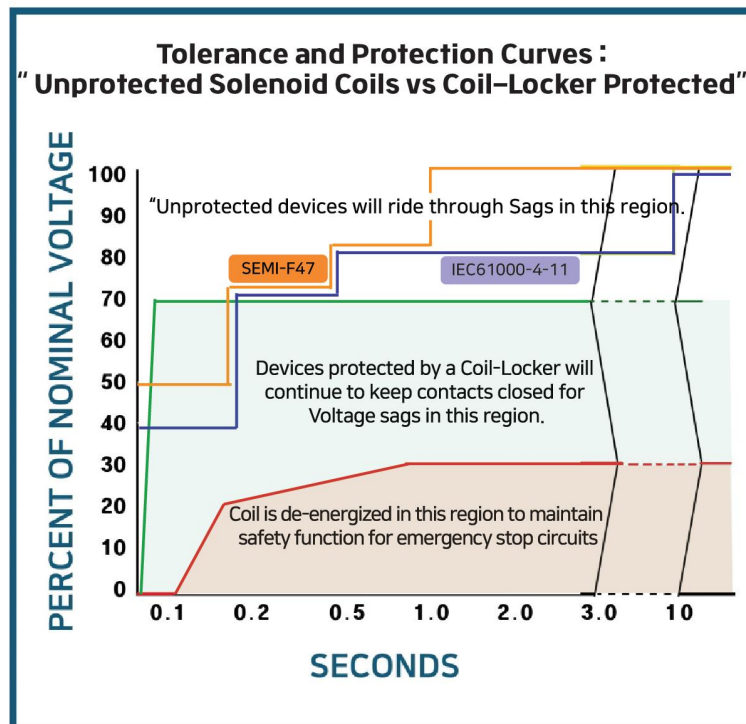
Technical Specifications

- | | |
|------------------------------------|--|
| ■ Sag Compensation | : Constant output voltage supply to maintain contact point up to 30% of normal voltage |
| ■ Sag Compensation Exclusion Range | : If the COIL-LOCKER input voltage fails for 6 cycles (safety circuit operation emergency stop) |
| ■ Coil Inrush Current | : Large draw current supply required at startup |
| ■ Surge Tolerance | : Designed to withstand up to 6kV/500A defined in ANSI/IEEE C62.41 Category A, B |
| ■ Application Environment | : Designed with strength and durability for common commercial and industrial applications |
| ■ Rated Voltage and Temperature | : Within 10% of rated coil voltage and temperature -29°C to +55°C |
| ■ Replacement Recommended Life | : Approximately 60,000 hours for continuous operation (6.5 years), more than doubled for alternating operation |
| ■ Walkie-talkie Tolerance | : VHF passes the walkie-talkie tolerance test |
| ■ Energy Savings | : Approximately 30% less power than AC M/C alone |
| ■ Construction Cost Reduction | : Lower wiring costs than installation of stability and sag compensation devices with independent individual control |

Key Features

It is a product made in Korea as an AC M/C chattering protection device.

- Maintain M/C performance up to 30% Sag of normal voltage (protect chattering)
- If the voltage drops below 30% of the normal voltage, it is recognized as a form and the safety circuit allows the facility to be down by emergency stop.
- Easy installation and maintenance with DIN Rail socket method
- Small (60x45x100mm/socket included), lightweight (0.14kg) for easy installation anywhere
- Certification content
 - CE Certificate : EN61326-1, EN55011:2009/A1:2010, EN55011:2016/A1:2017Group1[Class A]
 - SEMI F47, IEC61000-4-11 Sag Immunity test passed.



Differentiation from Similar Products

- Normal M/C : Unable to prevent facility down due to inrush current generation by allowing chattering to occur in the middle.
- 1 Second UPS Type for M/C : Capacitor compensation type products maintain M/C until a power failure of 1 second, and there is no emergency stop mode, which may cause difficulty in the facility, and there is a risk of failure.
- Auto-Restart Type Relay : It is not suitable for precision process control equipment by allowing the M/C to automatically recover after a specified time after a power failure
- **COIL-LOCKER : Even if continuous sag occurs, sag compensation is possible without any restrictions, protecting chattering**

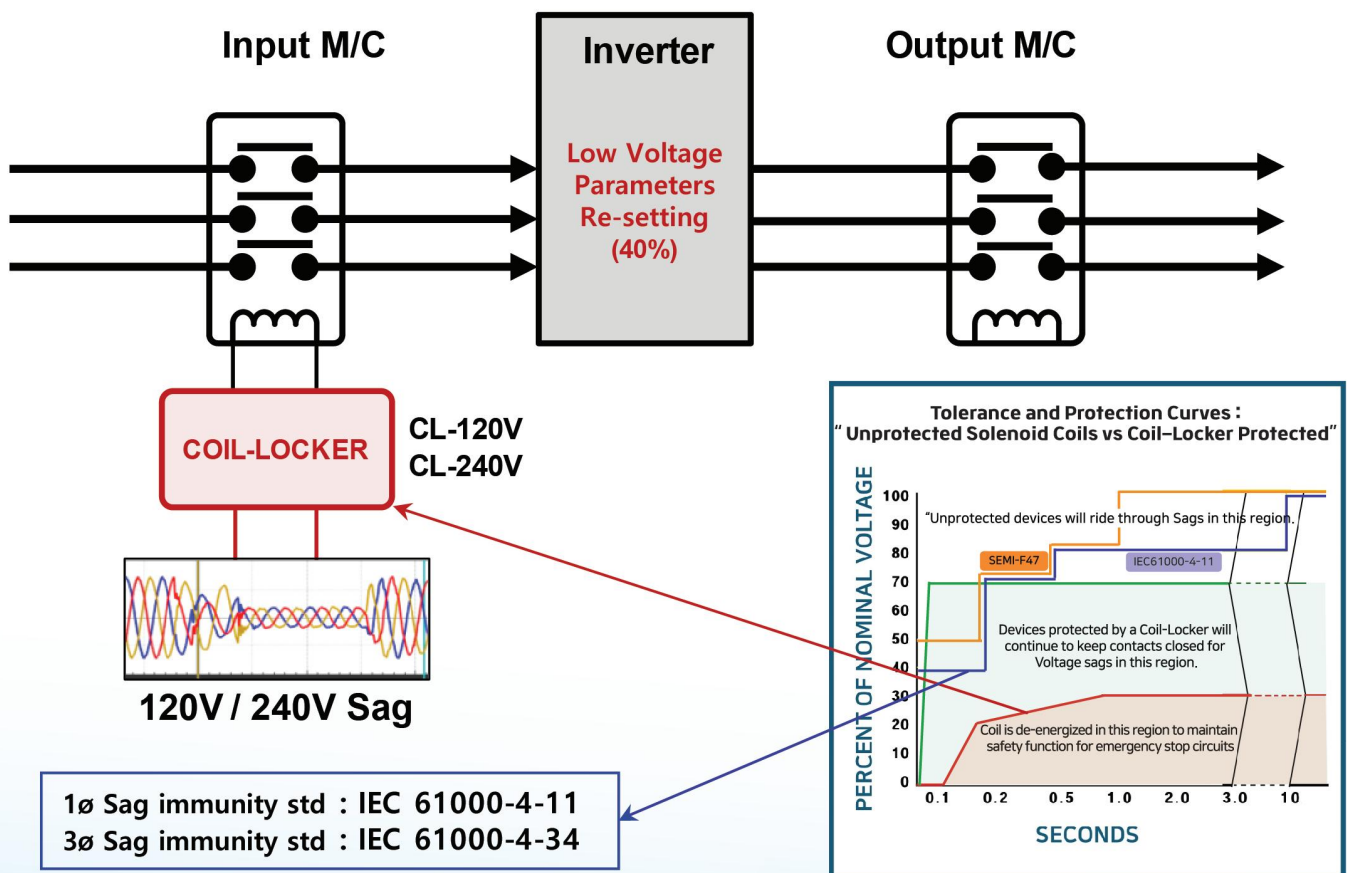
Applications

- M/C for SEMI-F47 & IEC 61000-4-11,34
- M/C for plant and solar inverters
- M/C for Delta of Y-Delta motor starter type
- Cooling motor M/C in IDC center
- Large buildings, fish farms, water purification plant pumps, motor M/C
- Ventilation M/C motor

COIL-LOCKER Installations

We installed COIL-LOCKER, an anti-chattering device, only on the AC M/C at the input end of the inverter that is being operated automatically.

- In the event of a sag, over-current causes occasional loss of inverter, resulting in excessive expenditure on facility operation
- As the output terminal M/C has sag tolerance following the inverter output, there is no need to take sag compensation
- The inverter low voltage level is set to 40% based on IEC 61000-4-34 as parameter re-setting
- Since the inverter is not chattered by the M/C, there is no large inrush current, so the IGBT operates normally without damaging



How to Install

- Control power passed from the COIL-LOCKER is supplied to the AC drive coil of the M/C

Figure 1. original M/C install

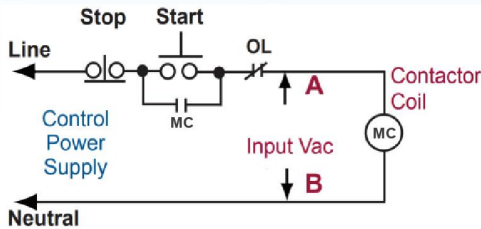


Figure 2. COIL-LOCKER 8pin octal socket wiring

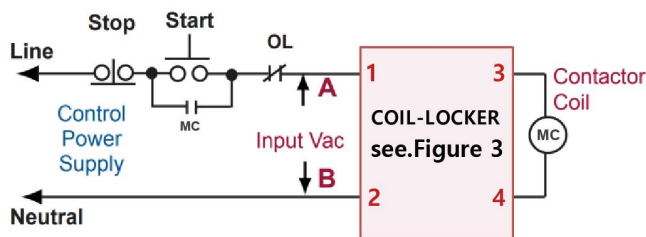
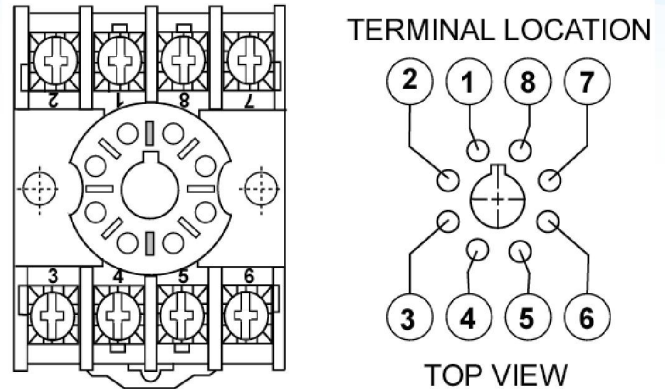


Figure 3. COIL-LOCKER octal connection layout



Order Specifications (AC only) COIL-LOCKER Includes octal sockets for DIN-Rail required for installation

Model name	AC voltage range	Coil DC Resistance	Certifications
CL-240V	AC 200V ~ 240V (50Hz ~ 60Hz)	5Ω to 17.5 KΩ	CE SEMI-F47 IEC61000-4-11
CL-120V	AC 100V ~ 120V (50Hz ~ 60Hz)	3Ω to 4.5 KΩ Less than 3 ohms : Dual COIL-LOCKERs are required.	CE SEMI-F47 IEC61000-4-11

* Warranty : 1year

Certification



CE : CL-240V



CE : CL-120V



SEMI F47 : CL-240V
IEC61000-4-11: CL-240V



SEMI F47 : CL-120V
IEC61000-4-11: CL-120V

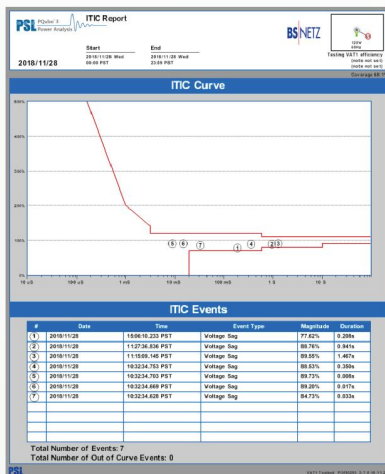


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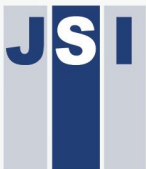
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Instantaneous Voltage Electrical Quality Monitoring Device
SEMI F47 control relay provide



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