Release of the new crane-dedicated inverter, FR-A800-CRN

with various functions ideal for a crane application such as reduction in tact time, load slippage prevention, etc.

**Swinging suppression control**

By using the Mitsubishi’s original swinging suppression control technology, the swinging of an object moved by a crane is suppressed at the time of stopping, even without the operator’s input. This control cuts down the tact time and facilitates efficient operation.

**Load torque high-speed frequency control (mode 2)**

When there is a light-load (when light loads are moved up or down by a crane), the speed will automatically be increased. This reduces the tact time and facilitates efficient operation.

The possible operation frequency is set automatically according to the load. After starting the inverter, since the output frequency is suppressed depending on the current value, the inverter will run at a high frequency during a light load, or at a low frequency during a heavy load.

**Shortest-time torque startup function**

The time from the start command to when the brake opens is shortened. This will contribute to a reduction in tact time.

- Shortest-time torque startup function: The optimum distribution of the excitation current and torque current enables rapid startup of the torque.
- Magnetic flux command during pre-excitation: Decreasing the pre-excitation current during a motor stop reduces power consumption during standby, and enables rapid startup of the torque.

**Brake sequence function**

The highly scalable brake sequence function enables the output of a brake opening signal for the optimum brake operation calculated from the load torque or the actual speed.

**Load slippage prevention**

Slippage during the start of a lift can be checked. When the commanded direction differs from the actual motor rotation direction, the slippage detection signal is output.

**A variety of dedicated monitoring functions**

**Overload detection function**

By outputting an overload detection signal when too much load (overload) is applied to a crane, this information can be transmitted to the superordinate controller. During constant speed operation, when the motor torque is equal to or higher than the torque setting for the time setting or longer, the overload detection signal is turned ON.

**Falling detection**

The falling detection signal is output when the commanded direction differs from the actual motor rotation direction, and the falling detection signal is output.

**Start count monitor**

The inverter starting times can be counted. Confirming the starting times can be used to determine the timing of the maintenance, or can be used as a reference for system inspection or parts replacement.

**Available in a wide range of industries**

Using the recommended EMC filter in combination with the inverter supports compliance with various countries ship classifications, such as NK, LR, DNV, ABS, and BV. The FR-A800-CRN can be used for electric deck cranes on ship.

**Longer service life**

- The service life of the cooling fans is now 10 years. The service life can be further extended by ON/OFF control of the cooling fans.
- Capacitors with a design life of 10 years are adapted. Life indication of life components

**Enhanced environmental resistance**

- Using the inverter in the dusty environment may cause fault such as a short circuit. The inverter with plated conductor is also available.
Lineup

**Standard model**

- **FR-A820-0.4K-1-60 CRN**
  - Symbol: 2
  - Voltage class: 200 V class
  - Structure/functionality: Standard model
  - Capacity: 0.4K to 280K
  - Description: Inverter ND rated capacity (kW): 0.4K to 280K
  - Type: -1
  - Potted: Without
  - Dedicated functions: CRN Dedicated to crane
  - Initial setting: 0023 to 06830

- **FR-A842-315K-1-60 CRN**
  - Symbol: 4
  - Voltage class: 400 V class
  - Structure/functionality: Separated converter type
  - Capacity: 315K to 500K
  - Description: Inverter ND rated capacity (kW): 315K to 500K
  - Type: -1
  - Potted: Without
  - Dedicated functions: CRN Dedicated to crane
  - Initial setting: 07700 to 12129

**Related Factory Automation Products**

- **Three-Phase Motor**
  - High Performance Energy-Saving Motor
  - Super Line Premium Series
  - SF-PR

Premium Efficiency & Compatible. New Launch of Super Line Premium Series SF-PR Model

- Compliant to general efficiency motor SF-JR model, generated loss is reduced by 37% on average, and it is compatible with highly efficient premium IE3.
- Easy replacement is achieved as mounting dimension (frame number) is compatible with general efficiency motor SF-JR model.
- One motor can accommodate different power sources of Japan and the U.S. These ratings in Japan meet the Top Runner standards, while it corresponds to EIA in the U.S.
- Can be driven by inverters as standard. Advanced magnetic-flux vector control by our FR-A800 achieves steady torque drive up to 0.5Hz.

**Product Specifications**

- Number of poles: 2-poles, 4-poles, 6-poles
- Voltage Frequency: 200/208/220/230V 50/60/60Hz EiA 230V 60Hz or 400/400/440/460V 50/60/60Hz EiA 460V 60Hz
- Outdoor Totally enclosed fan cooled type (inside, outside installation)
- Protection system: IP44
- Power transmission: Motor with 4-poles and 6-poles are for both direct and crossed belt connections.
- Rotation direction: Counter-clockwise (CCW) direction viewed from the edge of axis.
- Compatible standard: JEC-2137-2000 (Efficiency is compatible with IEC 60034-30.)