New seriese release notices

Medium Voltage AC Drive
TMdrive-MVe3

TMEIC
We drive industry

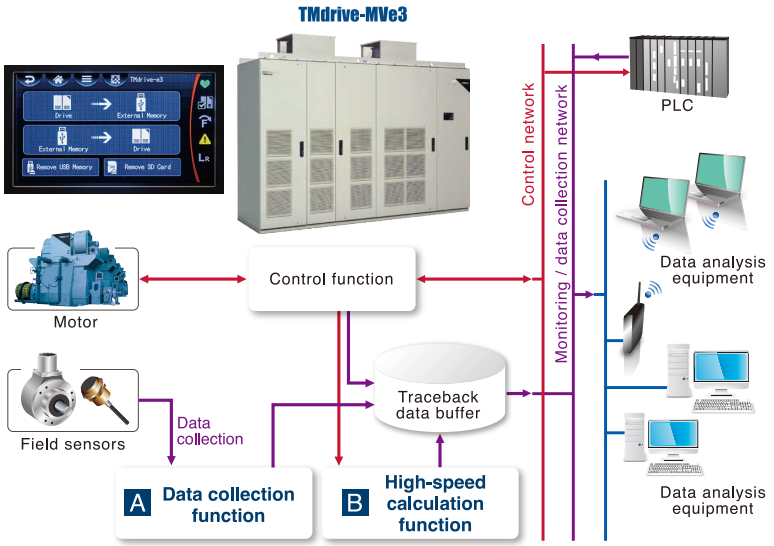
The ‘e3 control’ by latest IoT & digitalization technologies provide epoch-making Inverter

Our "TMdrive-MVG2" and "TMdrive-MVe2" with multi-level PWM control for variable speed operation of high-voltage motors have a lot of experience as high performance MV drive equipment. New TMdrive-MVe3 with ‘e3 control’ can achieve the progress with above main circuits, more high-speed, high-precision motor control and easy connection with PLC, field data collection and analysis functions as high performance drive equipment. In addition, the drive's maintenance and adjustment functions have been improved with a full range of monitoring and maintenance tools. TMEIC can contribute to global warming through reduced CO_2 emissions by our extensive experience in AC variable speed drive systems, that should be requested high efficiency for energy savings, reliability, user-friendly operability for variable speed high-voltage motors with operational stability and digitalization.

[Releasing product] by made in Japan : July 2024／Type-D : Diode front end model July 2025／Type-P : Active front end model

TMdrive-MVe3 Function / Features

1 Helps Achieve Plant Digitalization



A Data collection function

Plant Digitalization can be achieved by using the data collected such as motor currents, motor voltage, motor speed, self-diagnostics and field data from various sensors. TMdrive-MVe3 uses extended inputs / outputs to collect field data. It can uniquely process data based on the application. It can store data temporarily using a buffer or it can store long-term history data using built-in SD card. A faster data collection and enhanced security is achieved by isolating Control Network from Diagnostic Network.

B High-speed calculation function

The high-speed calculation function enables high-speed sampling and high-speed analysis of functions such as frequency domain analysis. TMdrive-MVe3 can store high-speed data and results of high-speed calculations in a temporary buffer and it can broadcast them to external supervisory / diagnostic devices. Due to separation of Control Network from Data collection / diagnostics Network as well as of Control Function from High-Speed Analysis function, impact on CPU processing power and motor control is avoided

2 The Group of Tools that Improve Maintainability

TMdrive-Navigator

TMdrive-Navigator is a world class tool that can be used to adjust and / or monitor drive parameters. In addition to individual parameter adjustments, it is now possible to change a group of parameters specific to a function or application. It is also possible to fine tune parameters to "increase response" or "suppress vibrations" to improve motor control and process performance. In the event of failures, TMdrive-MVe3 can store a larger number of Traceback files and with a longer duration than previous model, allowing a better fault diagnosis.

TMdrive-Monitor

It is possible to monitor the driving status and failure information of the drive from a smartphone or tablet. Traceback data can be uploaded when a failure occurs.

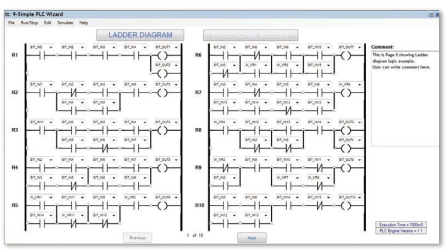
TMdrive-Support

A QR code will be displayed on the operation panel on the drive panel. By reading the QR code with a smartphone or tablet with TMdrive-Support installed, device information such as ratings can be obtained. In addition, by reading the QR code that is displayed at the time of failure, troubleshooting for the corresponding failure will be displayed on the smartphone or tablet.

3 Drive Specialized for Plant Control

Built-in micro PLC

TMdrive-MVe3 has built-in micro PLC which can be programed to add simple ladder logic functions or simple application specific functions.In addition, the number of external signal input / output points can be expanded by connecting additional I/O boards.



Ladder sequence

4 Downtime Reduction

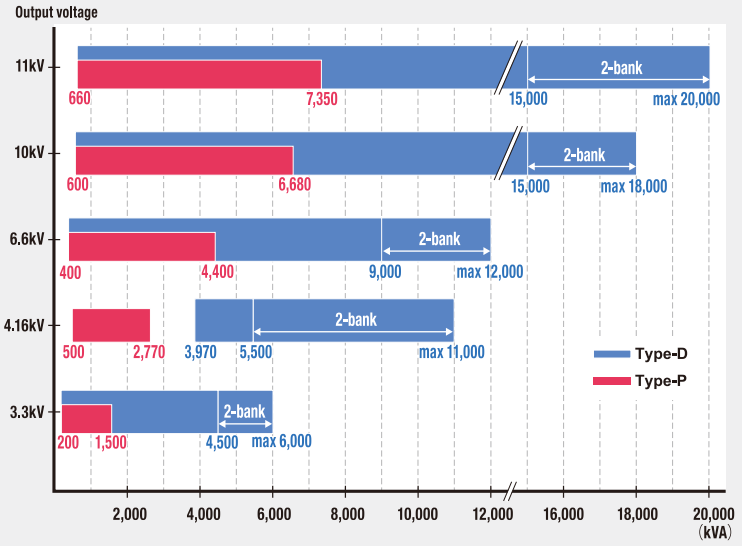
Parameter Migration

It is possible to take over the drive information by inserting the SD card with the saved parameters into the new board.

Preventive maintenance

TMdrive-MVe3 tracks operation time of certain parts within the drive. To complement preventive maintenance, TMdrive-MVe3 will announce when a particular component is approaching end of its recommended operating life.

5 Voltage/Capacity range



6 Applications

Type-D model / Type-P model common

Applicable for various applications

- Suitable for energy saving with fans, pumps and other applications. (Fan, Blower,compressor・・・)
- Applicable for constant-torque load applications. (Extruder, Mixer, Kiln, Conveye)
- Applicable as a soft starter for multiple motors
- Applicable for multiple motors operation with single drive

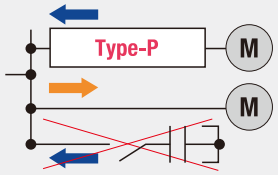
Applicable for any kind of industry such as;

Petro-chemical, Oil&Gas, Rubber, Cement, Mining, Steel & Metal, Pulp & Paper, Water, Power Plant...

Type-P model

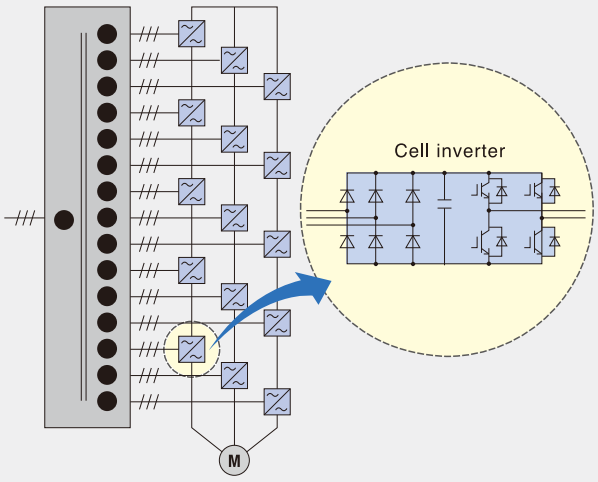
By power regeneration function,

- Fast response and stable rapid acceleration/deceleration operation
- Energy saving is possible because rotational energy is returned to the power supply during deceleration.
- VAR control is possible for starter applications by useing effective of the standby period after the end of acceleration operation.

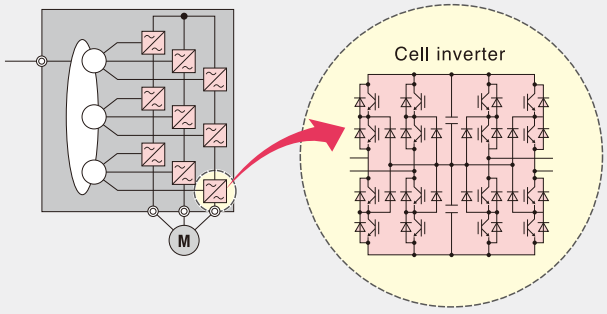


7 Main Circuit block diagram (example:6.6kV)

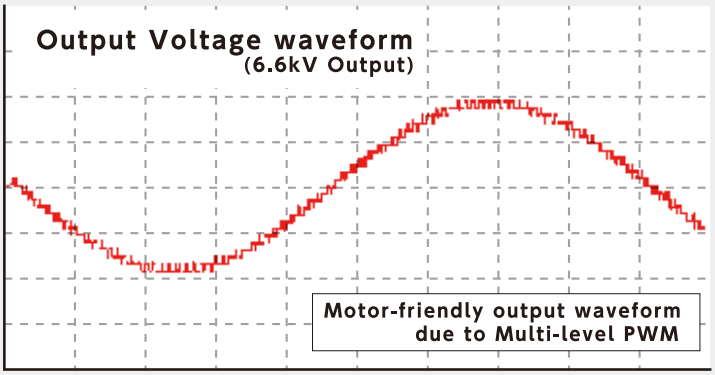
Type-D : Diode front end model



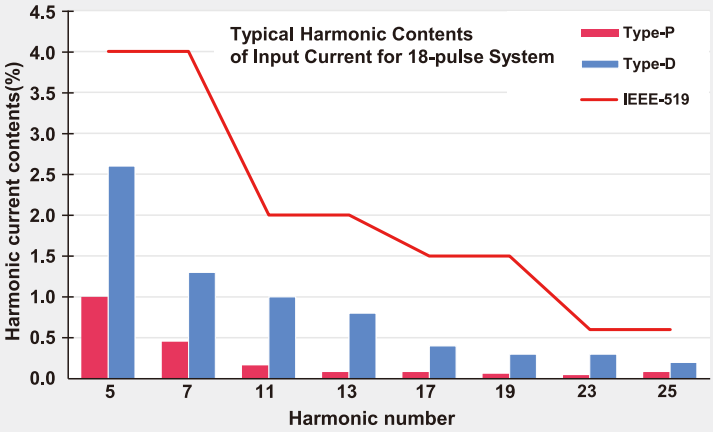
Type-P : Active front end model



8 Output waveform example of type-D



9 Input harmonics



TMEiC
We drive industry

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Safety precautions ..... For safe and correct use, be sure to read the "Handling and Operation Manual" carefully before use.

＊Issued in Apr. 2024

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