MITSUBISHI ELECTRIC
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INVERTER

New Product RELEASE No.17-1E

Release of the FR-A800-ELV Inverter for Elevator Applications

Inverter with various functions ideal for elevator applications

A800 Plus

A new lineup of dedicated inverters for specialized fields are born!

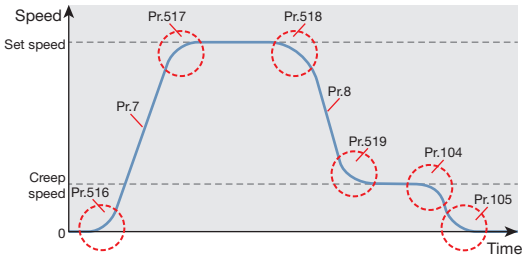
Plus! The optimum functions for each dedicated field are added to the already high performance and high functionality FR-A800 series inverter.

Features

Smooth and comfortable ride

Pattern setting for acceleration/deceleration (S-pattern acceleration/deceleration D)

The speed change rate can be set individually for the deceleration from the set speed and the deceleration from the creep speed. With the smooth deceleration stop, the shock load can be reduced.



Zero speed brake sequence operation

Zero speed control or servo lock is activated to lighten the shock when the brake is released or applied (when the elevator starts or stops).

P gain adjustment for speed control in the low-speed range

The time from startup to releasing of the brake can be shortened by improving the response at low speed.

Safe and reliable emergency measures

Rescue function

If the elevator cage stops outside the landing position due to a power failure or other reason, the inverter runs on a power supplied from a standby system such as a UPS and moves the elevator cage to the landing of the nearest floor.

Enhanced system support

Compatibility with multi-pole PM motors

The FR-A800-ELV inverter supports a PM motor with 40 poles*1. A wider range of motors can be driven by the inverter.

*1: Offline auto tuning for PM motors is required. Note that tuning may be disabled depending on the motor characteristics.

Release schedule February 2017

Lineup

●: Released model

F R - A 8 4 0 - 00126 - 1 - ELV

Symbol	Voltage class
4	400 V class

Symbol	Description
00126 to 00770	Inverter SLD rated current (A)
3.7 to 30K	Inverter ND rated capacity (kW)

Symbol	Type*1
1	FM
2	CA

Symbol	Circuit board coating (conforming to IEC60721-3-3 3C2/3S2)	Plated conductor
None	Without	Without
60	With	Without
06*2	With	With

Symbol	Function
ELV	Elevator dedicated model

Three-phase 400V class FR-A840-[]	00126	00170	00250	00310	00380	00470	00620	00770
	3.7Ka	5.5K	7.5K	11K	15K	18.5K	22K	30K
	●	●	●	●	●	●	●	●

*1: Specification differs by the type. Major differences are shown in the table below.

Type	Monitor output	Initial setting			
		Built-in EMC filter	Control logic	Rated frequency	Pr.19 Base frequency voltage
FM (terminal FM equipped model)	Terminal FM: pulse train output Terminal AM: analog voltage output (0 to ±10 VDC)	OFF	Sink logic	60 Hz	9999 (same as the power supply voltage)
CA (terminal CA equipped model)	Terminal CA: analog current output (0 to 20 mADC) Terminal AM: analog voltage output (0 to ±10 VDC)	ON	Source logic	50 Hz	8888 (95% of the power supply voltage)

*2: Applicable for the FR-A840-00170 (5.5K) or higher.

Differences with the FR-A800 series

- The FR-A800-ELV inverter is not equipped with the operation panel (FR-DU08).
- The FR-A840-00250(7.5K)-ELV or lower does not have a built-in brake resistor.
- The SSCNET III(/H) communication option (FR-A8NS) is not supported.
- The adjustable 5 points V/F function and the orientation control function are not available.

Parameter list

The following table shows the elevator function parameters and the parameters for which changes are made to the setting range or the initial value as compared in the FR-A800 standard inverter to support the functions for the elevator operation. Prepare an optional LCD operation panel or parameter unit to change the parameter settings.

Pr.	Name
29	Acceleration/deceleration pattern selection
52	Operation panel main monitor selection
81	Number of motor poles
100	Start signal delay time
101	Constant speed retention time ratio
102	S-curve correction scaling factor
103	Minimum deceleration time
104	Deceleration stop S-curve start time
105	Deceleration stop S-curve completion time
106	S-curve acceleration start time
107	S-curve acceleration completion time
108	Brake signal retention time at stop
109	Integral term clear waiting time
125	Terminal 2 frequency setting gain frequency
144	Speed setting switchover
178	STF terminal function selection
179	STR terminal function selection
180	RL terminal function selection
181	RM terminal function selection
182	RH terminal function selection
183	RT terminal function selection
184	AU terminal function selection

Pr.	Name
185	JOG terminal function selection
186	CS terminal function selection
187	MRS terminal function selection
188	STOP terminal function selection
189	RES terminal function selection
190	RUN terminal function selection
191	SU terminal function selection
192	IPF terminal function selection
193	OL terminal function selection
194	FU terminal function selection
195	ABC1 terminal function selection
196	ABC2 terminal function selection
281	Brake operation time at start
292	Automatic acceleration/deceleration
350	Rescue speed
351	Motor torque measurement filter
352	Motor torque measurement waiting time
353	Signal logic switchover
354	Creep speed selection
355	Rescue operation rotation direction selection
356	Rescue operation power supply selection
357	Short floor operation travel distance correction factor

Pr.	Name
358	Rescue operation overspeed detection level
454	Number of second motor poles
774	Operation panel monitor selection 1
775	Operation panel monitor selection 2
776	Operation panel monitor selection 3
903	Terminal 2 frequency setting gain frequency
992	Operation panel setting dial push monitor selection
1027	Analog source selection (1ch)
1028	Analog source selection (2ch)
1029	Analog source selection (3ch)
1030	Analog source selection (4ch)
1031	Analog source selection (5ch)
1032	Analog source selection (6ch)
1033	Analog source selection (7ch)
1034	Analog source selection (8ch)
1400	Low-speed range speed control P gain 1
1401	Low-speed range speed control P gain 2
1402	Low-speed range gain corner frequency 1
1403	Low-speed range gain corner frequency 2
1414	Low-speed range speed control integral time 1
1415	Low-speed range speed control integral time 2

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