



MATERIAL FACT SHEET

297571 FR-A840-00170-E2-60

General Data

Product Hierarchy	IAK24101
	INVERTER
	FR-A840 from 00023 to 00620
Ext. Material Group	10 STANDARD ITEM
ABC Indicator	A (Available from Stock)

e-shop: https://mitsubishi-electric-eshop.mee.com/mee/FA_IA/EUR/en/p/000000000000297571

FA-Inverter: Inverter

Series	FR-A SERIES
Type	FR-A800-E INVERTER
Minimum Rated Voltage (V)	380
Min. Permissible Voltage (V)	323
Maximum Rated Voltage (V)	500
Max. Permissible Voltage (V)	550
Current Type	AC
Phases	3
Rated Output Current SLD (A)	17
Rated Output Current LD (A)	16
Rated Output Current ND (A)	12
Rated Output Current HD (A)	9
Rated Motor Capacity SLD (kW)	7,5
Rated Motor Capacity LD (kW)	7,5
Rated Motor Capacity ND (kW)	5,5
Rated Motor Capacity HD (kW)	3,7
Frequency Range (Hz)	0,2-590
Control Method	MAGNETIC FLUX VECTOR CONTROL
Control Method (2)	PM SENSORLESS VECTOR CONTROL
Control Method (3)	REAL SENSORLESS VECTOR CONTROL
Control Method (4)	SOFT-PWM/HIGH FREQUENCY PWM
Control Method (5)	V/F CONTROL
Control Method (6)	VECTOR CONTROL (WITH FR-A8AP)
Motor Type	INDUCTION MOTOR, PM MOTOR
Brake Chopper ED (%)	100
Integrated EMC Filter	YES
Safe Torque Off (STO)	YES
Regenerative (4Q)	NO
Integrated DC Choke	NO
Display	FR-DU08
Display Type	5 DIGITS LED (12 SEGMENT)
PLC Function	YES
Program Memory	6K
Program Memory Unit	STEPS
Integrated Digital Inputs	12
Digital Outputs (Transistor)	5
Digital Outputs (Relay)	2
Integrated Analogue Inputs	3
Integrated Analogue Outputs	2
IO Type of Terminal Block	SPRING CLAMP
Expandable	YES
RS-485	OPTIONAL
USB	1+1 MINI
Ethernet Port	1
Built-In Network	CC-LINK IE FIELD NETWORK
Built-In Network (2)	CC-LINK IE FIELD NETWORK BASIC
Built-In Network (3)	MODBUS/TCP
Leakage Current (mA)	35(DELTA) / 2(STAR)

Power Loss SLD (W)	245
Power Loss LD (W)	230
Power Loss ND (W)	170
Power Loss HD (W)	135
Standby Power Consumption (W)	20
Protection Class	IP20

Product Dimensions & Weight

Width (mm)	220
Height (mm)	260
Depth (mm)	170
Weight (kg)	6,7

Logistic Dimensions & Gross Weight

Length (cm)	36,0
Width (cm)	33,5
Height (cm)	25,0
Gross Weight (kg)	7,597
Volume (cdm)	30,150

Stock Data

Planned Delivery Time (Days)	156
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Life Cycle

Sales Start	30.05.2016
Predecessor	266746 / FR-A840-00170-2-60

Additional Product Information

Binding Tariff Information	DEBTI-21865/22-1
BTI validity date	01.01.2026
Battery included	NO

Export Data

Legal Control (Dual Use List)	Not Listed
Country of Origin	China (CN)
Preference Status (Supplier Declaration)	Non EU

Environmental

REACH Limit Exceeded	NO
Dangerous Goods Class	NO
Dangerous Goods Identifier	NO
RoHS Compliance	COMPLIANT
WEEE	B2B

Conformity

CE	COMPLIANT
UL/cUL	COMPLIANT
EAC	COMPLIANT
Shipping Approvals	ABS,BV,DNV GL,LR,NK
UKCA	COMPLIANT

Documentation & Media Data

Manual URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=bltdae25c2bd5f2ff94&q=FR-A840-00170-E2-60&doc-lang=en
Certificates URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt8050dd1408c11cc2&q=FR-A840-00170-E2-60&doc-lang=en
CAD URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt26ecc97a31a841c1&q=FR-A840-00170-E2-60&doc-lang=en
Network configuration file URL	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blte8cf990c7c524b4e&q=FR-A840-00170-E2-60&doc-lang=en

Product Packaging

Cardboard (g)	677
Other paper (g)	0
Aluminum (g)	0
Steel (g)	0
Styrofoam (g)	195
Other plastic (g)	6,768
Wood (g)	0

Glass (g)	0
Others (g)	0

Spare parts

Material	Description	Quantity	Unit
282883	FR-A840-00170-2-60 PCB MA	1	PC
307202	FR-CA80-01-E2-60	1	PC
282932	FR-A840/842/846-ALL TERMINAL BLOCK A80TA	1	PC
282933	FR-A840-00170-00250/A846-ALL CBL MA-CPU	1	PC
283446	FR-A840-00170-00250-2-60 FAN	2	PC
283457	FR-A840-00170-00250-2-60 BREAK RESISTOR	1	PC
283458	FR-A840-00170-00250-2-60 INRUSH RES.	1	PC
283552	FR-A840-00170-2-60 CAPACITOR	2	PC
283663	FR-A840-00170/00250-2-60 CHASSIS	1	PC
283664	FR-A840-00170/00250-2-60 CASE	1	PC
283685	FR-A840-00170-00380-2-60 COVER UPPER FR.	1	PC
283686	FR-A840-00170/00250-2-60 COVER LOWER FR.	1	PC
283687	FR-A840-00170/00250-2-60 COVER WIRING	1	PC
283688	FR-A840-00170/00250-2-60 COVER FAN	1	PC

Compatible products

Material	Description / Price List Text / Classification
50045	FR-ABR-H5.5K External High-Duty Brake Resistor; 400V; 5,5kW; 110 Ohm; 10%ED Class 100100407: FA-Inverter: Brake Option
70727	FR-A5 CBL 1 Cable for connecting Inverter and Programming panel; 1m Class 100100405: FA-Inverter: Cable
70728	FR-A5 CBL 2,5 Cable for connecting Inverter and Programming panel; 2,5m Class 100100405: FA-Inverter: Cable
70729	FR-A5 CBL 5 Cable for connecting Inverter and Programming panel; 5m Class 100100405: FA-Inverter: Cable
87245	FR-BAL-B-5,5K Input Reactor 3ph; 400V; for 5,5kW Class 100100406: FA-Inverter: Choke
127947	BU-UFS 22 Brake Unit 400V; Contin. Braking Current 22A; 10sec peak current 34A Class 100100407: FA-Inverter: Brake Option
127948	BU-UFS 40 Brake Unit 400V; Contin. Braking Current 34A; 10sec peak current 55A Class 100100407: FA-Inverter: Brake Option
127950	BU-UFS 110 Brake Unit 400V; Contin. Braking Current 44A; 10sec peak current 138A Class 100100407: FA-Inverter: Brake Option
129629	RUFC22 (PACK OF 1) Brake Resistor for BU-UFS22; 2kW; 1x24 Ohm Class 100100407: FA-Inverter: Brake Option
129630	RUFC40 (PACK OF 2) Brake Resistor Set for BU-UFS40; 2kW; 2x6,8 Ohm Class 100100407: FA-Inverter: Brake Option
129631	RUFC110 (PACK OF 4) Break Resistor Set for BU-UFS110; 2kW; 4x6,8 Ohm Class 100100407: FA-Inverter: Brake Option
167612	FR-RJ45-HUB10 Distribution Module for RJ45; 10 way Class 100100403: FA-Inverter: External Option
167613	FR-RJ45-HUB4 Distribution Module for RJ45; 4 way Class 100100403: FA-Inverter: External Option
167614	FR-RJ45-TR Terminal Resistor Plug RJ45 Class 100100403: FA-Inverter: External Option
193678	FFR-BS-00250-30A-SF100 Radio Noise Filter for FR-A&F-00170/00250-EC; C1 20m; C2 100m Class 100100404: FA-Inverter: Filter
209737	FFR-SI-18A-SS1 Sinusfilter for 200/230/400V Inverters;max. 18A;FT=4-16kHz;(W*H*D) 190*230*120mm Class 100100404: FA-Inverter: Filter

Material	Description / Price List Text / Classification
209756	FFR-DT-25A-SS1 du/dt Filter for 400V Inverters; max. 25A; FT=2-16kHz; (W*H*D) 125*140*80mm Class 100100404: FA-Inverter: Filter
221540	USB-CAB-5M USB 2.0 connection cabel, plug USB A to plug USB B (mini), 5m Class 100100303: FA-HMI: Cable
238347	FFR-HEL-H5.5K-E DC Link choke for 400V Inverter; 5,5kW; 4,74mH; 10,5A Class 100100406: FA-Inverter: Choke
247892	BH-D10 3P 20A TYPE C N Miniature circuit breaker 20 A, 3 pole, Type C Class 100100801: FA-MCB: Miniature Circuit Breaker
254687	NF32-SV 3P 20A Circuit breaker 3pole. In = 20A; Icu = Ics = 2,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
254689	NF32-SV 3P 30A Circuit breaker 3pole. In = 30A; Icu = Ics = 2,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
254746	NF63-SV 3P 20A Circuit breaker 3pole. In = 20A; Icu = Ics = 7,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
254781	NF63-HV 3P 20A Circuit breaker 3pole. In = 20A; Icu / Ics = 10 / 8kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
254783	NF63-HV 3P 30A Circuit breaker 3pole. In = 30A; Icu / Ics = 10 / 8kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
262948	A8NDPV1 Profibus DPV1 with Dsub Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
262949	A8NPRT_2P Profinet 2port Interface for FR-A/F800 with Drive Profile Class 100100402: FA-Inverter: Internal Option
262950	A8NEIP_2P EtherNet/IP 2port Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
269402	NF63-SV 3P 30A Circuit breaker 3pole. In = 30A; Icu = Ics = 7,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
269426	FR-A8AX 16-Bit-Digital-Input; BCD/Binary-Code; 24V DC; 5mA for FR-F/A800 Class 100100402: FA-Inverter: Internal Option
269427	FR-A8AY Digital-/Analog Output; Output load: 24V DC; 0,1A for FR-F/A800 Class 100100402: FA-Inverter: Internal Option
269428	FR-A8AR Relay output; 3 additional output relays for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
269429	FR-A8AP Incremental Encoder Feedback for FR-A800 Class 100100402: FA-Inverter: Internal Option
269430	FR-A8AL Incremental encoder feedback terminal block for FR-A800 Class 100100402: FA-Inverter: Internal Option
269431	FR-A8NC CC-Link Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
269432	FR-A8ND DeviceNet Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
273102	FR-A8NCE CC-Link IE Field Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
274514	FR-A8NP ProfibusDP Interface for FR-A/F800 with FR-A/F700 PPO types Class 100100402: FA-Inverter: Internal Option
274525	FR-LU08 Clear text LCD Parameter unit for all units of 800 Series Class 100100403: FA-Inverter: External Option

Material	Description / Price List Text / Classification
274526	FR-A8TAT Adapter for control terminal of A/F700 to A/F800 Class 100100402: FA-Inverter: Internal Option
275503	FR Configurator-M+FR-Configurator2 FR-Configurator for 700 series; multi I + FR-Configurator2 for 800 series Class 100101203: FA-Software: Software Inverter
277881	FR-A8CN02 Heatsink Protrusion Attachment for FR-F/A840-00170/00250; for FR-A820-00340/0049 Class 100100403: FA-Inverter: External Option
279204	S-T12 AC24V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 24V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279205	S-T12 AC48V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 48V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279206	S-T12 AC100V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 100V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279207	S-T12 AC200V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 200V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279208	S-T12 AC300V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 300V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279209	S-T12 AC400V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 400V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279210	S-T12 AC500V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 500V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279239	S-T21 AC24V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 24V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279240	S-T21 AC48V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 48V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279241	S-T21 AC100V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 100V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279242	S-T21 AC200V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 200V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279243	S-T21 AC300V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 300V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279244	S-T21 AC400V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 400V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
279245	S-T21 AC500V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 500V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
283939	FR-A8APR Resolver interface/orientation control/Resolver feedback control/vector control Class 100100402: FA-Inverter: Internal Option
283940	FR-A8AZ Analog Input/ output, Thermistor interface Class 100100402: FA-Inverter: Internal Option
284809	A8NECT_2P Ethercat 2port Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
285244	FR-A8TP Incremental Encoder Feedback Terminal Block for FR-A800 Class 100100402: FA-Inverter: Internal Option
289335	FR-A8NS SSCNet Interface for FR-A800 Class 100100402: FA-Inverter: Internal Option
291920	BHW-T10 3P Type B 20A MCB 3-pole, Rated current 20A, Operating characteristic B Class 100100801: FA-MCB: Miniature Circuit Breaker

Material	Description / Price List Text / Classification
291992	BHW-T10 3P Type C 20A MCB 3-pole, Rated current 20A, Operating characteristic C Class 100100801: FA-MCB: Miniature Circuit Breaker
292082	BHW-T10 3P Type D 20A MCB 3-pole, Rated current 20A, Operating characteristic D Class 100100801: FA-MCB: Miniature Circuit Breaker
294939	FR-D-Sub9-A8NP-01 D-Sub9 Connection Adapter for FR-A8NP + Cover Class 100100402: FA-Inverter: Internal Option
296613	FR-LU08-01 Clear text LCD Parameter unit for all units of 800 Series (IP55) Class 100100403: FA-Inverter: External Option
297422	FR-A8APS Absolute Encoder Feedback for FR-A800 (EnDat) Class 100100402: FA-Inverter: Internal Option
298153	FR-A8NCA CANopen Interface for FR-A800 Class 100100402: FA-Inverter: Internal Option
307170	FR-A8ERS-60 Optioncard to change Ethernet board to serial communication Class 100100402: FA-Inverter: Internal Option
307170	FR-A8ERS-60 Optioncard to change Ethernet board to serial communication Class 100100402: FA-Inverter: Internal Option
403614	FR-A8APA SinCos Encoder Feedback for FR-A800 Class 100100402: FA-Inverter: Internal Option
475731	NF32-SVF 3P 30A Circuit breaker F 3pole. In = 30A; Icu = Ics = 2,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
591572	RHF-5P 5.5-400-50-20-C High efficient double-stage passive harmonic filter for THDi <5%;400V;50Hz;5.5kW Class 100100404: FA-Inverter: Filter
591592	RHF-8P 5.5-400-50-20-C High efficient double-stage passive harmonic filter for THDi <8%;400V;50Hz;5.5kW Class 100100404: FA-Inverter: Filter