



## 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://emea-fa.mitsubishielectric.com/fa/shop/material-page/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 BASIC
Built-In Network (2)	MODBUS/TCP
Built-In Network (3)	SLMP
Built-In Network (4)	iQSS

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)	119
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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
Product Code	INV(O/O MDI)

### Export Data

Commodity Code	85371091
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	NON-COMPLIANT
Shipping Approvals	ABS,BV,DNV GL,LR,NK
UKCA	COMPLIANT

### Documentation & Media Data

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

### 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
<a href="#">282883</a>	FR-A840-00170-2-60 PCB MA	1	PC
<a href="#">307202</a>	FR-CA80-01-E2-60	1	PC
<a href="#">282932</a>	FR-A840/842/846-ALL TERMINAL BLOCK A80TA	1	PC
<a href="#">282933</a>	FR-A840-00170-00250/A846-ALL CBL MA-CPU	1	PC
<a href="#">736384</a>	FR-A800 BREAK RESISTOR	1	PC
<a href="#">283458</a>	FR-A840-00170-00250-2-60 INRUSH RES.	1	PC
<a href="#">283552</a>	FR-A840-00170-2-60 CAPACITOR	2	PC
<a href="#">283663</a>	FR-A840-00170/00250-2-60 CHASSIS	1	PC
<a href="#">283664</a>	FR-A840-00170/00250-2-60 CASE	1	PC
<a href="#">283685</a>	FR-A840-00170-00380-2-60 COVER UPPER FR.	1	PC
<a href="#">283686</a>	FR-A840-00170/00250-2-60 COVER LOWER FR.	1	PC
<a href="#">283687</a>	FR-A840-00170/00250-2-60 COVER WIRING	1	PC
<a href="#">283688</a>	FR-A840-00170/00250-2-60 COVER FAN	1	PC
<a href="#">732821</a>	FR-A800/F800 FAN MMF-06L24SS-CX1	2	PC

### Compatible products

Material	Description / Price List Text / Classification
<a href="#">50045</a>	FR-ABR-H5.5K External High-Duty Brake Resistor; 400V; 5,5kW; 110 Ohm; 10%ED Class 100100407: FA-Inverter: Brake Option
<a href="#">70727</a>	FR-A5 CBL 1 Cable for connecting Inverter and Programming panel; 1m Class 100100405: FA-Inverter: Cable
<a href="#">70728</a>	FR-A5 CBL 3 Cable for connecting Inverter and Programming panel; 3m Class 100100405: FA-Inverter: Cable
<a href="#">70729</a>	FR-A5 CBL 5 Cable for connecting Inverter and Programming panel; 5m Class 100100405: FA-Inverter: Cable
<a href="#">87245</a>	FR-BAL-B-5,5K Input Reactor 3ph; 400V; for 5,5kW Class 100100406: FA-Inverter: Choke
<a href="#">127947</a>	BU-UFS 22 Brake Unit 400V; Contin. Braking Current 22A; 10sec peak current 34A Class 100100407: FA-Inverter: Brake Option
<a href="#">127948</a>	BU-UFS 40 Brake Unit 400V; Contin. Braking Current 34A; 10sec peak current 55A Class 100100407: FA-Inverter: Brake Option
<a href="#">127950</a>	BU-UFS 110 Brake Unit 400V; Contin. Braking Current 44A; 10sec peak current 138A Class 100100407: FA-Inverter: Brake Option
<a href="#">129629</a>	RUFC22 (PACK OF 1) Brake Resistor for BU-UFS22; 2kW; 1x24 Ohm Class 100100407: FA-Inverter: Brake Option
<a href="#">129630</a>	RUFC40 (PACK OF 2) Brake Resistor Set for BU-UFS40; 2kW; 2x6,8 Ohm Class 100100407: FA-Inverter: Brake Option
<a href="#">129631</a>	RUFC110 (PACK OF 4) Brake 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
<a href="#">167613</a>	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
<a href="#">193678</a>	FFR-BS-00250-30A-SF100 Radio Noise Filter for FR-A&F-00170/00250-EC; C1 20m; C2 100m Class 100100404: FA-Inverter: Filter

Material	Description / Price List Text / Classification
<a href="#">209737</a>	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
<a href="#">209756</a>	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
<a href="#">221540</a>	USB-CAB-5M USB 2.0 connection cabel, plug USB A to plug USB B (mini), 5m Class 100100303: FA-HMI: Cable
<a href="#">238347</a>	FFR-HEL-H5.5K-E DC Link choke for 400V Inverter; 5,5kW; 4,74mH; 10,5A Class 100100406: FA-Inverter: Choke
<a href="#">247892</a>	BH-D10 3P 20A TYPE C N Miniature circuit breaker 20 A, 3 pole, Type C Class 100100801: FA-MCB: Miniature Circuit Breaker
<a href="#">254687</a>	NF32-SV 3P 20A Circuit breaker 3pole. In = 20A; Icu = Ics = 2,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254689</a>	NF32-SV 3P 30A Circuit breaker 3pole. In = 30A; Icu = Ics = 2,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254746</a>	NF63-SV 3P 20A Circuit breaker 3pole. In = 20A; Icu = Ics = 7,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254781</a>	NF63-HV 3P 20A Circuit breaker 3pole. In = 20A; Icu / Ics = 10 / 8kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254783</a>	NF63-HV 3P 30A Circuit breaker 3pole. In = 30A; Icu / Ics = 10 / 8kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">262948</a>	A8NDPV1 Profibus DPV1 with Dsub Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">262949</a>	A8NPRT_2P Profinet 2port Interface for FR-A/F800 with Drive Profile Class 100100402: FA-Inverter: Internal Option
<a href="#">262950</a>	A8NEIP_2P EtherNet/IP 2port Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">269402</a>	NF63-SV 3P 30A Circuit breaker 3pole. In = 30A; Icu = Ics = 7,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">269426</a>	FR-A8AX 16-Bit-Digital-Input; BCD/Binary-Code; 24V DC; 5mA for FR-F/A800 Class 100100402: FA-Inverter: Internal Option
<a href="#">269427</a>	FR-A8AY Digital-/Analog Output; Output load: 24V DC; 0,1A for FR-F/A800 Class 100100402: FA-Inverter: Internal Option
<a href="#">269428</a>	FR-A8AR Relay output; 3 additional output relays for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">269429</a>	FR-A8AP Incremental Encoder Feedback for FR-A800 Class 100100402: FA-Inverter: Internal Option
<a href="#">269430</a>	FR-A8AL Incremental encoder feedback terminal block for FR-A800 Class 100100402: FA-Inverter: Internal Option
<a href="#">269431</a>	FR-A8NC CC-Link Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">269432</a>	FR-A8ND DeviceNet Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">273102</a>	FR-A8NCE CC-Link IE Field Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">274514</a>	FR-A8NP ProfibusDP Interface for FR-A/F800 with FR-A/F700 PPO types Class 100100402: FA-Inverter: Internal Option

Material	Description / Price List Text / Classification
<a href="#">274525</a>	FR-LU08 Clear text LCD Parameter unit for all units of 800 Series Class 100100403: FA-Inverter: External Option
<a href="#">274526</a>	FR-A8TAT Adapter for control terminal of A/F700 to A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">275503</a>	FR Configurator-M+FR-Configurator2 FR-Configurator for 700 series; multi I + FR-Configurator2 for 800 series Class 100101203: FA-Software: Software Inverter
<a href="#">277881</a>	FR-A8CN02 Heatsink Protusion Attachment for FR-F/A840-00170/00250; for FR-A820-00340/0049 Class 100100403: FA-Inverter: External Option
<a href="#">279204</a>	S-T12 AC24V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 24V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279205</a>	S-T12 AC48V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 48V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279206</a>	S-T12 AC100V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 100V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279207</a>	S-T12 AC200V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 200V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279208</a>	S-T12 AC300V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 300V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279209</a>	S-T12 AC400V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 400V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279210</a>	S-T12 AC500V 1A1B Magnetic contactor. 5,5kW; 1NO + 1NC; Us = AC 500V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279239</a>	S-T21 AC24V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 24V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279240</a>	S-T21 AC48V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 48V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279241</a>	S-T21 AC100V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 100V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279242</a>	S-T21 AC200V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 200V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279243</a>	S-T21 AC300V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 300V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279244</a>	S-T21 AC400V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 400V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">279245</a>	S-T21 AC500V 2A2B Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 500V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
<a href="#">283939</a>	FR-A8APR Resolver interface/orientation control/Resolver feedback control/vector control Class 100100402: FA-Inverter: Internal Option
<a href="#">283940</a>	FR-A8AZ Analog Input/ output, Thermistor interface Class 100100402: FA-Inverter: Internal Option
<a href="#">284809</a>	A8NECT_2P Ethercat 2port Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
<a href="#">285244</a>	FR-A8TP Incremental Encoder Feedback Terminal Block for FR-A800 Class 100100402: FA-Inverter: Internal Option
<a href="#">289335</a>	FR-A8NS SSCNet Interface for FR-A800 Class 100100402: FA-Inverter: Internal Option

Material	Description / Price List Text / Classification
<a href="#">291920</a>	BHW-T10 3P Type B 20A MCB 3-pole, Rated current 20A, Operating characteristic B Class 100100801: FA-MCB: Miniature Circuit Breaker
<a href="#">291992</a>	BHW-T10 3P Type C 20A MCB 3-pole, Rated current 20A, Operating characteristic C Class 100100801: FA-MCB: Miniature Circuit Breaker
<a href="#">292082</a>	BHW-T10 3P Type D 20A MCB 3-pole, Rated current 20A, Operating characteristic D Class 100100801: FA-MCB: Miniature Circuit Breaker
<a href="#">294939</a>	FR-D-Sub9-A8NP-01 D-Sub9 Connection Adapter for FR-A8NP + Cover Class 100100402: FA-Inverter: Internal Option
<a href="#">296613</a>	FR-LU08-01 Clear text LCD Parameter unit for all units of 800 Series (IP55) Class 100100403: FA-Inverter: External Option
<a href="#">297422</a>	FR-A8APS Absolute Encoder Feedback for FR-A800 (EnDat) Class 100100402: FA-Inverter: Internal Option
<a href="#">298153</a>	FR-A8NCA CANopen Interface for FR-A800 Class 100100402: FA-Inverter: Internal Option
<a href="#">307170</a>	FR-A8ERS-60 Optioncard to change Ethernet board to serial communication Class 100100402: FA-Inverter: Internal Option
<a href="#">307170</a>	FR-A8ERS-60 Optioncard to change Ethernet board to serial communication Class 100100402: FA-Inverter: Internal Option
<a href="#">403614</a>	FR-A8APA SinCos Encoder Feedback for FR-A800 Class 100100402: FA-Inverter: Internal Option
<a href="#">475731</a>	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
<a href="#">591572</a>	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
<a href="#">591592</a>	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