



MATERIAL FACT SHEET

307226 FR-F840-02160-E2-60

General Data

Product Hierarchy	IAK24203
	INVERTER
	FR-F840 from 02160
Ext. Material Group	10 STANDARD ITEM
ABC Indicator	C (Non-Stock Material / Make-to-Order)

e-shop: https://mitsubishi-electric-eshop.mee.com/mee/FA_IA/EUR/en/p/000000000000307226

Product Components

307186 / FR-AF840-02160-60	1 pc required
307205 / FR-CF80-01-E2-60	1 pc required

FA-Inverter: Inverter

Series	FR-F800 SERIES
Type	FR-F800-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)	216
Rated Output Current LD (A)	180
Rated Motor Capacity SLD (kW)	110
Rated Motor Capacity LD (kW)	90
Frequency Range (Hz)	0,2-590
Control Method	MAGNETIC FLUX VECTOR CONTROL
Control Method (2)	PM SENSORLESS VECTOR CONTROL
Control Method (3)	SOFT-PWM/HIGH FREQUENCY PWM
Control Method (4)	V/F CONTROL
Motor Type	INDUCTION MOTOR, PM MOTOR
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
USB	1+1 MINI
Ethernet Port	1
Built-In Network	BACNET/IP
Built-In Network (2)	CC-LINK IE FIELD NETWORK BASIC
Built-In Network (3)	MELSOFT/FA
Built-In Network (4)	MODBUS/TCP
Built-In Network (5)	SLMP
Built-In Network (6)	iQSS
Leakage Current (mA)	35(DELTA) / 2(STAR)
Power Loss SLD (W)	2520

Power Loss LD (W)	2100
Standby Power Consumption (W)	46
Protection Class	IP00

Product Dimensions & Weight

Width (mm)	465
Height (mm)	620
Depth (mm)	300
Weight (kg)	52

Logistic Dimensions & Gross Weight

Length (cm)	61,0
Width (cm)	89,0
Height (cm)	44,0
Gross Weight (kg)	59,000
Volume (cdm)	238,876

Stock Data

Planned Delivery Time (Days)	100
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Life Cycle

Sales Start	15.02.2017
Predecessor	156604 / FR-F740-02160-EC

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	DNV,ABS
UKCA	COMPLIANT

Documentation & Media Data

Manual URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=bltdae25c2bd5f2f94&q=FR-F840-02160-E2-60&doc-lang=en
Certificates URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt8050dd1408c11cc2&q=FR-F840-02160-E2-60&doc-lang=en
CAD URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt26ecc97a31a841c1&q=FR-F840-02160-E2-60&doc-lang=en
Network configuration file URL	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blte8cf990c7c524b4e&q=FR-F840-02160-E2-60&doc-lang=en

Product Packaging

Cardboard (g)	5718,2
Other paper (g)	0
Aluminum (g)	0
Steel (g)	0
Styrofoam (g)	0
Other plastic (g)	215
Wood (g)	0
Glass (g)	0
Others (g)	0

Spare parts

Material	Description	Quantity	Unit
282897	FR-A840-02160-02600-2-60 PCB GA	3	PC
282907	FR-A840-02160-02600-2-60 PCB AUX	1	PC
307205	FR-CF80-01-E2-60	1	PC
282932	FR-A840/842/846-ALL TERMINAL BLOCK A80TA	1	PC
282940	FR-A840/842/CC2-ALL CASE CPU	1	PC
283436	FR-A840-02160-2-60 DM	3	PC
283440	FR-A840-02160-02600-2-60 THYRISTORMODULE	1	PC
283449	FR-A840-02160-03610-2-60 FAN	3	PC
283463	FR-A840-02160-02600-2-60 INRUSH RES.	1	PC
283472	FR-A840-02160-2-60 DCCT	3	PC
283484	FR-A840-00770-2-60 OR BIGGER CBL MA-CPU	1	PC
283592	FR-A840-02160-02600-2-60 CAPACITOR	6	PC
283707	FR-A840-00930-12120-2-60 COVER	1	PC
283711	FR-A840-02160-03610-2-60 CASE FAN	3	PC
283712	FR-A840-02160-03610-2-60 COVER FAN	3	PC
627111	FR-A840-02160-02600-E2-60 PCB MA	1	PC

Compatible products

Material	Description / Price List Text / Classification
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
88426	SC-FR-PC CONNECTION CABLE PC>INVERTER Programming Cable RS 232>RS485/422; 5m Class 100100405: FA-Inverter: Cable
104663	FN 3359-250-28 f. A-90K/ F-110K Radio Noise Filter for FR-A&F-02160-02600; C2 100m; C4 100m Class 100100404: FA-Inverter: Filter
113651	S-N150 AC100V Magnetic contactor. 75kW; 2NO + 2NC; Us = AC 100V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113652	S-N150 AC200V Magnetic contactor. 75kW; 2NO + 2NC; Us = AC 200V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113653	S-N150 AC400V Magnetic contactor. 75kW; 2NO + 2NC; Us = AC 400V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113654	S-N150 AC24V Magnetic contactor. 75kW; 2NO + 2NC; Us = AC 24V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
157515	FR-ADP Adaptor Module for Operator Panel FR-DU07 Class 100100403: FA-Inverter: External 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
209745	FFR-SI-180A-SS1 Sinusfilter;200/400V Inverters;max.180A;FT=2-16kHz;(W*H*D) 450*200/400*max.360mm Class 100100404: FA-Inverter: Filter
209760	FFR-DT-182A-SS1 du/dt Filter for 400V Inverters; max. 182A; FT=2-16kHz; (W*H*D) 210*185*160mm 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

Material	Description / Price List Text / Classification
255081	NF250-SV 3P 225A Circuit breaker 3pole. In = 225A; Icu = Ics = 36kA 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
265795	NV250-CV 3P 225A 2-440V 1.2.500MA JIEN C Earth-leakage Breaker 3pole; In=225A; 100/200/500mA; Icu/Ics=25/19kA at AC400V Class 100100906: FA-MCCB: Earth Leakage 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
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
270291	FR-HC2-H110K KIT Harmonic Converter 110kW for Power Factor correction; 400V Class; KIT Class 100100403: FA-Inverter: External Option
273102	FR-A8NCE CC-Link IE Field Interface for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
273305	FR-HEL-H90K DC Link choke for 400V Inverter with 90kW Motor Class 100100406: FA-Inverter: Choke
274514	FR-A8NP ProfibusDP Interface for FR-A/F800 with FR-A/F700 PPO types Class 100100402: FA-Inverter: Internal Option
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
277948	FR-A8CN09 Heatsink Protrusion Attachment for FR-F/A840-02160/02600 Class 100100403: FA-Inverter: External 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
290115	FR-A8NCN Control Net Interface for FR-A800 series Class 100100402: FA-Inverter: Internal Option
290116	FR-A8TR Screw Terminal Block for FR-A/F800 Class 100100402: FA-Inverter: Internal Option
294939	FR-D-Sub9-A8NP-01 D-Sub9 Connection Adapter for FR-A8NP + Cover Class 100100402: FA-Inverter: Internal Option
296227	FR-BAL-B3-90K Input reactor 3ph, 400V, In= 180A, Pn=90kW, L1=0,123mH Class 100100406: FA-Inverter: Choke

Material	Description / Price List Text / Classification
296613	FR-LU08-01 Clear text LCD Parameter unit for all units of 800 Series (IP55) Class 100100403: FA-Inverter: External Option
307170	FR-A8ERS-60 Optioncard to change Ethernet board to serial communication Class 100100402: FA-Inverter: Internal Option
403133	FR-A8AVP Phase detection option board of FR-A/F800 Class 100100402: FA-Inverter: Internal Option
403134	FR-A8VPB-H Phase detection transformer box for FR-A8AVP Class 100100403: FA-Inverter: External Option
487882	FR-A8NCG Plug-in Option for CC-Link IE TSN Communication Function Class 100100402: FA-Inverter: Internal Option
591582	RHF-5P 90-400-50-20-C High efficient double-stage passive harmonic filter for THDi <5%;400V;50Hz;90kW Class 100100404: FA-Inverter: Filter
591603	RHF-8P 90-400-50-20-C High efficient double-stage passive harmonic filter for THDi <8%;400V;50Hz;90kW Class 100100404: FA-Inverter: Filter