



MATERIAL FACT SHEET

297627 FR-A820-03160-E1-60

General Data

Product Hierarchy	IAK24104
	INVERTER
	FR-A820 from 00046 to 04750
Ext. Material Group	10 STANDARD ITEM
ABC Indicator	B (Limited Availability from Stock)

e-shop: https://mitsubishi-electric-eshop.mee.com/mee/FA_IA/EUR/en/p/0000000000000297627

FA-Inverter: Inverter

Series	FR-A SERIES
Type	FR-A800-E INVERTER
Minimum Rated Voltage (V)	200
Min. Permissible Voltage (V)	170
Maximum Rated Voltage (V)	240
Max. Permissible Voltage (V)	264
Current Type	AC
Phases	3
Rated Output Current SLD (A)	316
Rated Output Current LD (A)	288
Rated Output Current ND (A)	215
Rated Output Current HD (A)	175
Rated Motor Capacity SLD (kW)	75
Rated Motor Capacity LD (kW)	75
Rated Motor Capacity ND (kW)	55
Rated Motor Capacity HD (kW)	45
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 (%)	-
Integrated EMC Filter	YES (OFF ON INITIAL SETTINGS)
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	CC-LINK IE FIELD NETWORK
Built-In Network (2)	CC-LINK IE FIELD NETWORK BASIC
Built-In Network (3)	MODBUS/TCP
Leakage Current (mA)	22
Power Loss SLD (W)	2750

Power Loss LD (W)	2450
Power Loss ND (W)	1830
Power Loss HD (W)	1450
Standby Power Consumption (W)	-
Protection Class	IP00

Product Dimensions & Weight

Width (mm)	465
Height (mm)	700
Depth (mm)	250
Weight (kg)	54

Logistic Dimensions & Gross Weight

Length (cm)	58,0
Width (cm)	62,0
Height (cm)	40,0
Gross Weight (kg)	61,500
Volume (cdm)	143,840

Stock Data

Planned Delivery Time (Days)	156
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Life Cycle

Sales Start	30.05.2016
Predecessor	284763 / FR-A820-03160-1-60

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	Japan (JP)
Preference Status (Supplier Declaration)	Non EU

Environmental

REACH Limit Exceeded	YES
REACH Substance CAS Number	12626-81-2
REACH Substance CAS Number (2)	127-19-5
REACH Substance CAS Number (3)	1317-36-8
REACH Substance CAS Number (4)	13560-89-9
REACH Substance CAS Number (5)	15571-58-1
REACH Substance CAS Number (6)	540-97-6
REACH Substance CAS Number (7)	541-02-6
REACH Substance CAS Number (8)	556-67-2
REACH Substance CAS Number (9)	7439-92-1
Dangerous Goods Class	NO
Dangerous Goods Identifier	NO
WEEE	B2B

Conformity

CE	COMPLIANT
UL/cUL	COMPLIANT
EAC	COMPLIANT
UKCA	COMPLIANT

Documentation & Media Data

Manual URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=bltdae25c2bd5f2ff94&q=FR-A820-03160-E1-60&doc-lang=en
Certificates URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt8050dd1408c11cc2&q=FR-A820-03160-E1-60&doc-lang=en
CAD URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt26ecc97a31a841c1&q=FR-A820-03160-E1-60&doc-lang=en
Network configuration file URL	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blte8cf990c7c524b4e&q=FR-A820-03160-E1-60&doc-lang=en

Product Packaging

Cardboard (g)	6400
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Other paper (g)	0
Aluminum (g)	0
Steel (g)	15
Styrofoam (g)	0
Other plastic (g)	95
Wood (g)	0
Glass (g)	0
Others (g)	400

Spare parts

Material	Description	Quantity	Unit
282932	FR-A840/842/846-ALL. TERMINAL BLOCK A80TA	1	PC
282941	FR-A840-77A-116A BALANCE RESISTOR	8	PC
283449	FR-A840-02160-03610-2-60 FAN	3	PC
283484	FR-A840-00770-2-60 OR BIGGER CBL MA-CPU	1	PC
283712	FR-A840-02160-03610-2-60 COVER FAN	3	PC
487556	FR-A820-03160-E1-60 PCB MA	1	PC
487564	FR-A820-01540-03160-30K-55K PCB AUX	1	PC

Compatible products

Material	Description / Price List Text / Classification
113656	S-N180 AC100V Magnetic contactor. 90kW; 2NO + 2NC; Us = AC 100V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113657	S-N180 AC200V Magnetic contactor. 90kW; 2NO + 2NC; Us = AC 200V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113658	S-N180 AC400V Magnetic contactor. 90kW; 2NO + 2NC; Us = AC 400V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113659	S-N220 AC100V Magnetic contactor. 132kW; 2NO + 2NC; Us = AC 100V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113660	S-N220 AC200V Magnetic contactor. 132kW; 2NO + 2NC; Us = AC 200V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
113661	S-N220 AC400V Magnetic contactor. 132kW; 2NO + 2NC; Us = AC 400V, 50Hz Class 100101001: FA-MC: Magnetic Contactor
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
204780	NF400-SEW 3P 400A Circuit breaker 3pole. Ir = 200 - 400A; Icu = Ics = 42kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
204782	NF400-HEW 3P 400A Circuit breaker 3pole. Ir = 200 - 400A; Icu = Ics = 65kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
204784	NF400-REW 3P 400A Circuit breaker 3pole. Ir = 200 - 400A; Icu / Ics = 125 / 63kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
204785	NF400-UEW 3P 400A Circuit breaker 3pole. Ir = 200 - 400A; Icu = Ics = 200kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
209746	FFR-SI-260A-SS1 Sinusfilter for 200/400V Inverters; max. 260A; FT=2-16kHz; (W*H*D) 450*510*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
238371	FFR-HEL-55K-E DC Link choke for 200V Inverter; 55kW; 0,13mH; 233A Class 100100406: FA-Inverter: Choke
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
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
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
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
294939	FR-D-Sub9-A8NP-01 D-Sub9 Connection Adapter for FR-A8NP + Cover Class 100100402: FA-Inverter: Internal 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
298153	FR-A8NCA CANopen Interface for FR-A800 Class 100100402: FA-Inverter: Internal Option

Material	Description / Price List Text / Classification
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