



## MATERIAL FACT SHEET

### 409324 FR-A840-00310-E2-60CRN

#### General Data

Product Hierarchy	IAK24101
	INVERTER
	FR-A840 from 00023 to 00620
Ext. Material Group	10 STANDARD ITEM
ABC Indicator	C (Non-Stock Material / Make-to-Order)

e-shop: <https://emea.mitsubishielectric.com/fa/shop/material-page/000000000000409324>

#### Product Components

<a href="#">297573 / FR-A840-00310-E2-60</a>	1 pc required
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#### FA-Inverter: Inverter

Series	FR-A800 PLUS SERIES
Type	FR-A800-CRN (FOR CRANES)
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)	31
Rated Output Current LD (A)	29
Rated Output Current ND (A)	23
Rated Output Current HD (A)	17
Rated Motor Capacity ND (kW)	11
Rated Motor Capacity HD (kW)	7,5
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
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)	35(DELTA) / 2(STAR)

Power Loss SLD (W)	370
Power Loss LD (W)	345
Power Loss ND (W)	280
Power Loss HD (W)	210
Standby Power Consumption (W)	20
Protection Class	IP20

### Product Dimensions & Weight

Width (mm)	220
Height (mm)	300
Depth (mm)	190
Weight (kg)	8,3

### Logistic Dimensions & Gross Weight

Length (cm)	46,0
Width (cm)	37,0
Height (cm)	37,0
Gross Weight (kg)	10,064
Volume (cdm)	62,974

### Stock Data

Planned Delivery Time (Days)	175
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### Life Cycle

Sales Start	01.12.2018
Predecessor	No Predecessor

### Additional Product Information

Difference to Standard 1	CRANE CONTROL
Binding Tariff Information	DEBTI-21865/22-1
BTI validity date	01.01.2026
Battery included	NO
Product Code	INV(EXCEPT VECTOR INV)

### Export Data

Commodity Code	85044095
Legal Control (Dual Use List)	Not Listed
Country of Origin	China (CN)
Preference Status (Supplier Declaration)	Non EU

### Environmental

REACH Limit Exceeded	YES
REACH Substance CAS Number	<a href="#">108-78-1</a>
REACH Substance CAS Number (2)	<a href="#">119344-86-4</a>
REACH Substance CAS Number (3)	<a href="#">12626-81-2</a>
REACH Substance CAS Number (4)	<a href="#">127-19-5</a>
REACH Substance CAS Number (5)	<a href="#">1317-36-8</a>
REACH Substance CAS Number (6)	<a href="#">29420-49-3</a>
REACH Substance CAS Number (7)	<a href="#">3147-75-9</a>
REACH Substance CAS Number (8)	<a href="#">3648-18-8</a>
REACH Substance CAS Number (9)	<a href="#">540-97-6</a>
REACH Substance CAS Number (10)	<a href="#">541-02-6</a>
REACH Substance CAS Number (11)	<a href="#">556-67-2</a>
REACH Substance CAS Number (12)	<a href="#">71868-10-5</a>
REACH Substance CAS Number (13)	<a href="#">7439-92-1</a>
REACH Substance CAS Number (14)	<a href="#">75980-60-8</a>
REACH Substance CAS Number (15)	<a href="#">79-94-7</a>
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	<a href="https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=bltdae25c2bd5f2ff94&amp;q=FR-A840-00310-E2-60CRN&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=bltdae25c2bd5f2ff94&amp;q=FR-A840-00310-E2-60CRN&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-A840-00310-E2-60CRN&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=blt8050dd1408c11cc2&amp;q=FR-A840-00310-E2-60CRN&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-A840-00310-E2-60CRN&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=blt26ecc97a31a841c1&amp;q=FR-A840-00310-E2-60CRN&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-A840-00310-E2-60CRN&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=blte8cf990c7c524b4e&amp;q=FR-A840-00310-E2-60CRN&amp;doc-lang=en</a>

## Product Packaging

Cardboard (g)	2000
Other paper (g)	0
Aluminum (g)	0
Steel (g)	0
Styrofoam (g)	0
Other plastic (g)	10
Wood (g)	0
Glass (g)	0
Others (g)	0

## Spare parts

Material	Description	Quantity	Unit
<a href="#">282885</a>	FR-A840-00310-00380-2-60 PCB MA	1	PC
<a href="#">282894</a>	FR-A840-00310-2-60 PCB GA	1	PC
<a href="#">283554</a>	FR-A840-00310-2-60 CAPACITOR	2	PC
<a href="#">283447</a>	FR-A840-00310/00380/00770-2-60 FAN	2	PC
<a href="#">282932</a>	FR-A840/842/846-ALL TERMINAL BLOCK A80TA	1	PC
<a href="#">591466</a>	FR-DU08 PARAMETER-UNIT ALL	1	PC
<a href="#">591470</a>	FR-A870 CABLE ALL BKO-CA1972H01	1	PC
<a href="#">591471</a>	FR-A870 CABLE ALL BKO-CA1972H02	1	PC
<a href="#">283482</a>	FR-A840-00310-00380-2-60 CBL MA-CPU	1	PC
<a href="#">591486</a>	FR-A870 COVER INTERFACE ALL	1	PC
<a href="#">597757</a>	FR-A840-00250 COVER UPPER FRONT	1	PC
<a href="#">283691</a>	FR-A840-00310/00380-2-60 COVER LOWER FR.	1	PC
<a href="#">283692</a>	FR-A840-00310/00380-2-60 COVER WIRING	1	PC
<a href="#">283693</a>	FR-A840-00310/00380-2-60 COVER FAN	1	PC
<a href="#">283459</a>	FR-A840-00310-00380-2-60 INRUSH RES.	1	PC
<a href="#">591494</a>	FR-A870 GROUND WIRE ETH ALL	1	PC

## Compatible products

Material	Description / Price List Text / Classification
<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="#">71053</a>	FR-BAL-B-11/15K Input Reactor 3ph; 400V; for 11/15kW 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

Material	Description / Price List Text / Classification
<a href="#">129631</a>	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
<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="#">191577</a>	FR-ABR-H11K External High-Duty Brake Resistor; 400V; 11kW; 52 Ohm; 6%ED Class 100100407: FA-Inverter: Brake Option
<a href="#">193679</a>	FFR-BS-00380-55A-SF100 Radio Noise Fiter for FR-A&F-00310-00380; C1 20m; C2 100m Class 100100404: FA-Inverter: Filter
<a href="#">209738</a>	FFR-SI-25A-SS1 Sinusfilter for 200/230/400V Inverters;max. 25A;FT=4-16kHz;(W*H*D) 210*260*125mm 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="#">238349</a>	FFR-HEL-H11K-E DC Link choke for 400V Inverter; 11kW; 2,58mH; 20,5A Class 100100406: FA-Inverter: Choke
<a href="#">247896</a>	BH-D10 3P 50A TYPE C N Miniature circuit breaker 50 A, 3 pole, Type C Class 100100801: FA-MCB: Miniature Circuit Breaker
<a href="#">253073</a>	NF63-SV 3P 50A Circuit breaker 3pole. In = 50A; Icu = Ics = 7,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254749</a>	NF63-SV 3P 40A Circuit breaker 3pole. In = 40A; Icu = Ics = 7,5kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254785</a>	NF63-HV 3P 40A Circuit breaker 3pole. In = 40A; Icu / Ics = 10 / 8kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254786</a>	NF63-HV 3P 50A Circuit breaker 3pole. In = 50A; Icu / Ics = 10 / 8kA at AC 440V Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker
<a href="#">254837</a>	NF125-SV 3P 50A Circuit breaker 3pole. In = 50A; Icu = Ics = 25kA 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="#">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

Material	Description / Price List Text / Classification
<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
<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="#">277882</a>	FR-A8CN03 Heatsink Protrusion Attachment for FR-F/A840-00310/00380; for FR-A820-00630 Class 100100403: FA-Inverter: External Option
<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
<a href="#">291924</a>	BHW-T10 3P Type B 50A MCB 3-pole, Rated current 50A, Operating characteristic B Class 100100801: FA-MCB: Miniature Circuit Breaker
<a href="#">291996</a>	BHW-T10 3P Type C 50A MCB 3-pole, Rated current 50A, Operating characteristic C Class 100100801: FA-MCB: Miniature Circuit Breaker

Material	Description / Price List Text / Classification
<a href="#">292086</a>	BHW-T10 3P Type D 50A MCB 3-pole, Rated current 50A, 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="#">591574</a>	RHF-5P 11-400-50-20-C High efficient double-stage passive harmonic filter for THDi <5%;400V;50Hz;11kW Class 100100404: FA-Inverter: Filter
<a href="#">591594</a>	RHF-8P 11-400-50-20-C High efficient double-stage passive harmonic filter for THDi <8%;400V;50Hz;11kW Class 100100404: FA-Inverter: Filter