



## MATERIAL FACT SHEET

### 504751 FR-E820S-0110-4-60

#### General Data

|                     |                          |
|---------------------|--------------------------|
| Product Hierarchy   | IAK24801                 |
|                     | INVERTER                 |
|                     | FR-E820                  |
| 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/000000000000703103](https://mitsubishi-electric-eshop.mee.com/mee/FA_IA/EUR/en/p/000000000000703103)

#### FA-Inverter: Inverter

|                               |                                |
|-------------------------------|--------------------------------|
| Series                        | FR-E800 SERIES                 |
| Type                          | FR-E800 RS485 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                        | 1                              |
| Rated Output Current ND (A)   | 11                             |
| Rated Motor Capacity ND (kW)  | 2,2                            |
| 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)            | V/F CONTROL                    |
| Motor Type                    | INDUCTION MOTOR, PM MOTOR      |
| Brake Chopper ED (%)          | 100                            |
| Integrated EMC Filter         | NO                             |
| Safe Torque Off (STO)         | YES                            |
| Regenerative (4Q)             | NO                             |
| Integrated DC Choke           | NO                             |
| Display                       | BUILT-IN                       |
| Display Type                  | 4 DIGITS LED                   |
| PLC Function                  | YES                            |
| Program Memory                | 2K                             |
| Program Memory Unit           | STEPS                          |
| Integrated Digital Inputs     | 7                              |
| Digital Outputs (Transistor)  | 2                              |
| Digital Outputs (Relay)       | 1                              |
| Integrated Analogue Inputs    | 2                              |
| Integrated Analogue Outputs   | 1                              |
| IO Type of Terminal Block     | SPRING CLAMP                   |
| Expandable                    | YES                            |
| RS-485                        | 1                              |
| USB                           | 1 (MINI B)                     |
| Ethernet Port                 | NO                             |
| Built-In Network              | MODBUS-RTU                     |
| Leakage Current (mA)          | 1,2                            |
| Power Loss LD (W)             | -                              |
| Power Loss ND (W)             | 95                             |
| Standby Power Consumption (W) | -                              |
| Protection Class              | IP20                           |

#### Product Dimensions & Weight

|             |       |
|-------------|-------|
| Width (mm)  | 140   |
| Height (mm) | 128   |
| Depth (mm)  | 142,5 |
| Weight (kg) | 1,9   |

### Logistic Dimensions & Gross Weight

|                   |       |
|-------------------|-------|
| Length (cm)       | 21,0  |
| Width (cm)        | 16,5  |
| Height (cm)       | 21,0  |
| Gross Weight (kg) | 2,148 |
| Volume (cdm)      | 7,277 |

### Stock Data

|                              |    |
|------------------------------|----|
| Planned Delivery Time (Days) | 79 |
|------------------------------|----|

### Life Cycle

|             |                            |
|-------------|----------------------------|
| Sales Start | 09.11.2020                 |
| Predecessor | 240979 / FR-E720S-110SC-E6 |

### Additional Product Information

|                  |    |
|------------------|----|
| Battery included | NO |
|------------------|----|

### 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="#">13560-89-9</a> |
| REACH Substance CAS Number (2) | <a href="#">540-97-6</a>   |
| REACH Substance CAS Number (3) | <a href="#">541-02-6</a>   |
| REACH Substance CAS Number (4) | <a href="#">556-67-2</a>   |
| REACH Substance CAS Number (5) | <a href="#">7439-92-1</a>  |
| REACH Substance CAS Number (6) | <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 |
| 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-E820S-0110-4-60&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=bltdae25c2bd5f2ff94&amp;q=FR-E820S-0110-4-60&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-E820S-0110-4-60&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=blt8050dd1408c11cc2&amp;q=FR-E820S-0110-4-60&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-E820S-0110-4-60&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=blt26ecc97a31a841c1&amp;q=FR-E820S-0110-4-60&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-E820S-0110-4-60&amp;doc-lang=en">https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&amp;doc-cats=blte8cf990c7c524b4e&amp;q=FR-E820S-0110-4-60&amp;doc-lang=en</a> |

### Product Packaging

|                   |     |
|-------------------|-----|
| Cardboard (g)     | 290 |
| 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="#">600706</a> | FR-E820/E840/E860 PCB CPU | 1        | PC   |
| <a href="#">611134</a> | FR-E840-4(5)-60 PCB TA    | 1        | PC   |
| <a href="#">611136</a> | FR-E840-0040-0095 FAN     | 1        | PC   |

| Material               | Description                     | Quantity | Unit |
|------------------------|---------------------------------|----------|------|
| <a href="#">611138</a> | FR-E800 parameter unit          | 1        | PC   |
| <a href="#">611140</a> | FR-E800-3,7K CBL CA             | 1        | PC   |
| <a href="#">591470</a> | FR-A870 CABLE ALL BKO-CA1972H01 | 1        | PC   |
| <a href="#">611144</a> | FR-E800 COVER TOP ALL           | 1        | PC   |
| <a href="#">611143</a> | FR-E840-0040-0095 COVER FAN     | 1        | PC   |

### Compatible products

| Material               | Description / Price List Text / Classification                                                                                                                     |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">70727</a>  | FR-A5 CBL 1<br>Cable for connecting Inverter and Programming panel; 1m<br>Class 100100405: FA-Inverter: Cable                                                      |
| <a href="#">70728</a>  | FR-A5 CBL 3<br>Cable for connecting Inverter and Programming panel; 3m<br>Class 100100405: FA-Inverter: Cable                                                      |
| <a href="#">70729</a>  | FR-A5 CBL 5<br>Cable for connecting Inverter and Programming panel; 5m<br>Class 100100405: FA-Inverter: Cable                                                      |
| <a href="#">130832</a> | FR-UDA02<br>DIN-Rail Adaptor for FR-D720S-1,5k; FR-D740-0,4k-3,7k<br>Class 100100403: FA-Inverter: External Option                                                 |
| <a href="#">166134</a> | FR-PU07<br>Programming panel with LCD-Display for all units of FR-700 series<br>Class 100100403: FA-Inverter: External Option                                      |
| <a href="#">167612</a> | FR-RJ45-HUB10<br>Distribution Module for RJ45; 10 way<br>Class 100100403: FA-Inverter: External Option                                                             |
| <a href="#">167613</a> | FR-RJ45-HUB4<br>Distribution Module for RJ45; 4 way<br>Class 100100403: FA-Inverter: External Option                                                               |
| <a href="#">167614</a> | FR-RJ45-TR<br>Terminal Resistor Plug RJ45<br>Class 100100403: FA-Inverter: External Option                                                                         |
| <a href="#">202426</a> | FR-BU2-H7.5K<br>Brake Unit without Brake Resistor for all Inverters with DC-Bus Terminals; 400V<br>Class 100100407: FA-Inverter: Brake Option                      |
| <a href="#">209052</a> | FR-PU07BB-L<br>Programming Panel with Copy Function; batterypowered; all FR-700 units; w/o bat.<br>Class 100100403: FA-Inverter: External Option                   |
| <a href="#">214795</a> | FR-PA07<br>Simple Parameter Unit for mounting on enclosure surface; for all FR-E700<br>Class 100100403: FA-Inverter: External Option                               |
| <a href="#">238360</a> | FFR-HEL-2.2K-E<br>DC Link choke for 200V Inverter; 2,2kW; 3,1mH; 10,5A<br>Class 100100406: FA-Inverter: Choke                                                      |
| <a href="#">254749</a> | NF63-SV 3P 40A<br>Circuit breaker 3pole. In = 40A; Icu = Ics = 7,5kA at AC 440V<br>Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker                          |
| <a href="#">254785</a> | NF63-HV 3P 40A<br>Circuit breaker 3pole. In = 40A; Icu / Ics = 10 / 8kA at AC 440V<br>Class 100100901: FA-MCCB: Moulded-Case Circuit Breaker                       |
| <a href="#">274525</a> | FR-LU08<br>Clear text LCD Parameter unit for all units of 800 Series<br>Class 100100403: FA-Inverter: External Option                                              |
| <a href="#">275503</a> | FR Configurator-M+FR-Configurator2<br>FR-Configurator for 700 series; multi I + FR-Configurator2 for 800 series<br>Class 100101203: FA-Software: Software Inverter |
| <a href="#">279143</a> | S-T10 AC200V 1A<br>Magnetic contactor. 4kW; 1NO; Us = AC 200V, 50Hz<br>Class 100101001: FA-MC: Magnetic Contactor                                                  |
| <a href="#">279200</a> | S-T10 AC200V 1B<br>Magnetic contactor. 4kW; 1NC; Us = AC 200V, 50Hz<br>Class 100101001: FA-MC: Magnetic Contactor                                                  |
| <a href="#">279242</a> | S-T21 AC200V 2A2B<br>Magnetic contactor. 11kW; 2NO + 2NC; Us = AC 200V, 50Hz<br>Class 100101001: FA-MC: Magnetic Contactor                                         |
| <a href="#">296613</a> | FR-LU08-01<br>Clear text LCD Parameter unit for all units of 800 Series (IP55)<br>Class 100100403: FA-Inverter: External Option                                    |

| Material               | Description / Price List Text / Classification                                                                                                     |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">506377</a> | FR-A8AX-60 E-KIT<br>16-Bit-Digital-Input; BCD/Binary-Code; 24V DC; 5mA; Coated; E-KIT for FR-E800<br>Class 100100402: FA-Inverter: Internal Option |
| <a href="#">506378</a> | FR-A8AY-60 E-KIT<br>Digital-/Analog Output; Output load: 24V DC; 0,1A; Coated; E-KIT for FR-E800<br>Class 100100402: FA-Inverter: Internal Option  |
| <a href="#">506379</a> | FR-A8AR-60 E-KIT<br>Relay output; 3 additional output relays; Coated; E-KIT for FR-E800<br>Class 100100402: FA-Inverter: Internal Option           |
| <a href="#">506380</a> | FR-A8NP-60 E-KIT<br>Profibus Network connection; Coated; E-KIT for FR-E800<br>Class 100100402: FA-Inverter: Internal Option                        |
| <a href="#">506381</a> | FR-A8ND-60 E-KIT<br>DeviceNet Network connection; Coated; E-KIT for FR-E800<br>Class 100100402: FA-Inverter: Internal Option                       |
| <a href="#">506412</a> | FR-A8NC-60 E-KIT<br>CC-Link Network connection; Coated; E-KIT for FR-E800<br>Class 100100402: FA-Inverter: Internal Option                         |
| <a href="#">572856</a> | FFR-E-CS-110-26A-SF1<br>Radio Noise Filter for FR-E820S-110; C1: 20m, C2:50m<br>Class 100100404: FA-Inverter: Filter                               |
| <a href="#">572857</a> | FFR-E-CS-110-26A-SF1-LL<br>Radio Noise Filter for FR-E820S-110; C1: 10m<br>Class 100100404: FA-Inverter: Filter                                    |
| <a href="#">573101</a> | FR-A8AP-60 E-KIT<br>Incremental Encoder Feedback; E-KIT for FR-E800; Coated<br>Class 100100402: FA-Inverter: Internal Option                       |
| <a href="#">679114</a> | EM-AMF 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; 3000r/min<br>Class 100100410: FA-Inverter: Motor                                          |
| <a href="#">679115</a> | EM-AMFW 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; IP65; 3000r/min<br>Class 100100410: FA-Inverter: Motor                                   |
| <a href="#">679116</a> | EM-AMFB 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; With brake; 3000r/min<br>Class 100100410: FA-Inverter: Motor                             |
| <a href="#">679117</a> | EM-AMFBW 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; With brake; IP65; 3000r/min<br>Class 100100410: FA-Inverter: Motor                      |
| <a href="#">679118</a> | EM-AMFK 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; With key; 3000r/min<br>Class 100100410: FA-Inverter: Motor                               |
| <a href="#">679119</a> | EM-AMFKW 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; With key; IP65; 3000r/min<br>Class 100100410: FA-Inverter: Motor                        |
| <a href="#">679120</a> | EM-AMFBK 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; With brake; With key; 3000r/min<br>Class 100100410: FA-Inverter: Motor                  |
| <a href="#">679121</a> | EM-AMFBKW 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; With brake; With key; IP65; 3000r/min<br>Class 100100410: FA-Inverter: Motor           |
| <a href="#">703100</a> | EM-AMFT 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; Terminal Block; 3000r/min<br>Class 100100410: FA-Inverter: Motor                         |
| <a href="#">703101</a> | EM-AMFBT 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; Terminal Block; With brake; 3000r/min<br>Class 100100410: FA-Inverter: Motor            |
| <a href="#">703102</a> | EM-AMFKT 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; Terminal Block; With key; 3000r/min<br>Class 100100410: FA-Inverter: Motor              |
| <a href="#">703103</a> | EM-AMFBKT 2.2KW 165V 150HZ<br>PM Motor; 2.2kW; Flange type; Terminal Block; With brake; With key; 3000r/min<br>Class 100100410: FA-Inverter: Motor |