

# Mitsubishi Drives Solutions from BPX

## Edition 10

The new A740 with in-built PLC Functionality



*This document shows list prices, please contact your local branch for discounts*

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**Controls & Drives**

# distributing technology

## Introducing BPX

BPX is a specialist distributor of industrial electrical control and automation products. Our head office is in Leicester and there are six BPX branches throughout the UK.

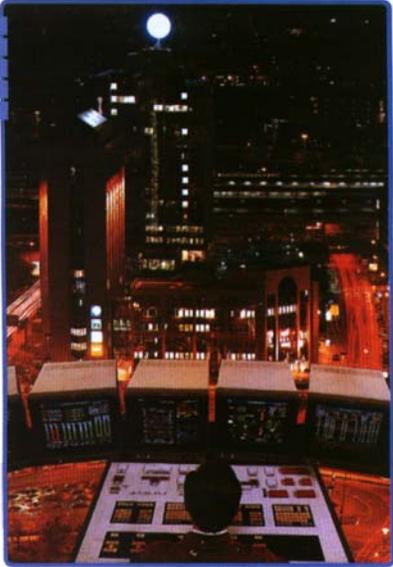
BPX Electro Mechanical Co. is the original member of the BPX Group which also includes the companies Controls and Drives, Ranger Computer Systems and Leicester Switch & Control. These businesses operate in the complementary areas of automation solutions, system integration and computer distribution.

**3 reasons to choose BPX**

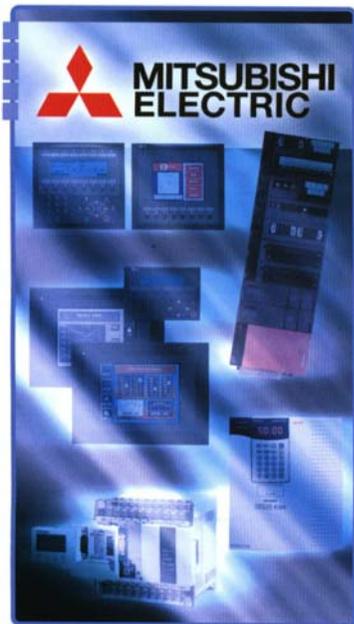
**1 Best Products**  
BPX carries an unrivalled set of authorised distributorships from the market leaders in control and automation.

**2 Best Services**  
BPX customers consistently report service levels to be the best in the business.

**3 Best Value**  
BPX is confident it offers the best value by price and service.



# products



The BPX product range offers solutions for all factory automation and industrial control applications.

With distributorships from the market leaders in the controls business including Mitsubishi, Pilz, Telemecanique, Omron, Merlin Gerin, Weidmuller and 35 other major manufacturers BPX is uniquely equipped.

BPX are one of only three companies appointed by Mitsubishi as key partners and our branch locations are authorised Mitsubishi Centres of Technical Excellence. BPX enjoy a unique position in the Mitsubishi distribution structure and have privileged access to technical support, product information and to the Mitsubishi sales team.

Mitsubishi's F and FX Series of PLCs remain the world's best selling programmable controllers and the company's unparalleled experience in the field of industrial automation ensure Mitsubishi are renowned for innovation, quality and value.

The complete Mitsubishi industrial automation product range is supported by BPX. We stock, supply and offer technical advice on Mitsubishi PLCs, Operator Interfaces, Inverters, Servos, Software and Circuit Protection.



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**Controls & Drives**

## **Edition 10**

### **What's new in this edition?**

#### **The A740 with in-build PLC Functionality**

- Chassis with separate control board to give flexibility for future improvements & changes in control technology
- Integrated EMC filter
- PLC Functionality
- Full Vector control

**Also now available is the IP20 FSU (Floor Standing Unit) for both A & F740 drives**

Please see the A740/F740/F746/FSU sections further on in this brochure for more details of these exciting additions to the Mitsubishi range.

#### **The "Solutions" brochures range:**

- Mitsubishi Drives Solutions from BPX
- Mitsubishi HMI Solutions from BPX
- Mitsubishi Servo Solutions from BPX
- Mitsubishi Software Solutions from BPX
- Electric Motor Solutions from BPX
- Cable Management Solutions from BPX

If you would like any of the above range of brochures, personalised with your company name & showing your discounted prices, please contact your local branch or e-mail [marketing@bpx.co.uk](mailto:marketing@bpx.co.uk)

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### **Single Phase Micro-Drive**

- 0.2 – 1.5 kW
- Digital control dial for ease of configuring
- PU/EXT button & also display LEDs for mode selection
- Inrush current protection
- DCL choke connection possible
- Sink/Source selectable
- High torque ability
- Hardware tripliss function
- Compatible with other “500 series” keypads (PA02-02, DU04, PU04)
- Can interface directly with all E type HMIs

The S520SE incorporates an RS485 communication port as standard.

The RS485 terminal permits the connection, via a cable, of other “500 series” keypads (PA02-02, DU04 & PU04), also Mitsubishi MX500 software, to set parameters, etc., thus providing the user with different tools for ease of set-up.

## Specifications

All Models	
Power Rating	0.2 – 1.5 kW
Supply Conditions	1 ph 240 volts
Output Frequencies	0 - 120 Hz
Carrier Frequencies	up to 14.5 kHz
Torque / Speed	160% / 3 Hz
Accel / Decel Times	0 – 999 secs
Keypad	Inbuilt
Current Overload – 60 secs	150%
Current Overload – 0.5 secs	200%

FR-S520SE-...K-EC	0.2	0.4	0.75	1.5
Motor Capacity (kW)	0.2	0.4	0.75	1.5
Capacity (kVA)	0.5	1	1.6	2.8
Output Current (A)	1.4	2.5	4.1	7.0
Output Voltage (depending on input voltage)	200-240V 50/60Hz			
Voltage Fluctuation permissible	170-264V 50/60Hz			
Height (mm)	128	128	128	128
Width (mm)	68	68	68	108
Depth (mm)	80.5	142.5	162.5	155.5
Approx. weight (kg)	0.6	0.8	1.0	1.5
Radio Filter Ref: FFR-S520S-...-RF1	14A	14A	14A	20A

*For Chokes, Reactors & other options, please contact your nearest branch*

## Options & Accessories

Parameter Copy Unit	FR-PU04 with cable
External Cable for PU 1 meter 3 meters 5 meters	FR-CB201 FR-CB203 FR-CB205
RS485 Serial Comms	std
Direct Connection Cable for E series HMI	CAB9-HMI E-FREQROL

*This document shows list prices, please contact your local branch for discounts*

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
158459	FR-S520SE-0.2K-EC	0.2 kW Single phase micro inverter, FR-PU04 compatible, 1.4 A (CT)	£113.00	Call	Call
158460	FR-S520SE-0.4K-EC	0.4 kW Single phase micro inverter FR-PU04 compatible, 2.5 A (CT)	£127.00	Call	Call
158461	FR-S520SE-0.75K-EC	0.75 kW Single phase micro inverter FR-PU04 compatible, 4.1 A (CT)	£148.00	Call	Call
158462	FR-S520SE-1.5K-EC	1.5 kW Single phase micro inverter FR-PU04 compatible, 7.0 A (CT)	£170.00	Call	Call
152736	FFR-S520S-14A-RF1	Radio filter for 0.2, 0.4 & 0.75 kW drives	£19.00	Call	Call
158553	FFR-S520S-14A-RF-LL	Radio filter Low Leakage for 0.2, 0.4 & 0.75 kW drives	£19.00	Call	Call
152740	FFR-S520S-20A-RF1	Radio filter for 1.5 kW drive	£23.00	Call	Call
158584	FFR-S520S-20A-RF-LL	Radio filter Low Leakage for 1.5 kW drives	£23.00	Call	Call
67735	FR-PU04	10 key parameter unit	£59.00	Call	Call
76002	FR-CB201	Programming extension cable, 1 meter	£16.00	Call	Call
76003	FR-CB203	Programming extension cable, 3 meters	£23.00	Call	Call
76004	FR-CB205	Programming extension cable, 5 meters	£36.00	Call	Call
130049	CAB9-HMI	Cable between E series HMI & FR inverters	£37.00	Call	Call
140367	FR-S520SE-0.2K-SET	Kit includes S520SE-0.2K-EC drive, breaker & filter	£142.00	Call	Call
140368	FR-S520SE-0.4K-SET	Kit includes S520SE-0.4K-EC drive, breaker & filter	£155.00	Call	Call
140369	FR-S520SE-0.75K-SET	Kit includes S520SE-0.75K-EC drive, breaker & filter	£175.00	Call	Call

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## *Three Phase Micro-Drive*

- *0.4 – 3.7 kW*
- *Digital control dial for ease of configuring*
- *PU/EXT button & also display LEDs for mode selection*
- *Inrush current protection*
- *DCL choke connection possible*
- *Sink/Source selectable*
- *High torque ability*
- *Hardware tripless function*
- *Compatible with other “500 series” keypads (PA02-02, PU04, DU04)*
- *Can interface directly with all E type HMIs*

The S540E incorporates an RS485 communication port as standard.

The RS485 terminal permits the connection, via a cable, of other “500 series” keypads (PA02-02, DU04 & PU04), also Mitsubishi MX500 software, to set parameters, etc., thus providing the user with different tools for ease of set-up.



**Controls & Drives**

# S540E

## Specifications

All Models	
Power Rating	0.4 – 3.7 kW
Supply Conditions	3 ph 415 volts
Output Frequencies	0 - 120 Hz
Carrier Frequencies	up to 14.5 kHz
Torque / Speed	160% / 3 Hz
Accel / Decel Times	0 – 999 secs
Keypad	Inbuilt
Current Overload – 60 secs	150%
Current Overload – 0.5 secs	200%

FR-S540E-...K-EC	0.4	0.75	1.5	2.2	3.7
Motor Capacity (kW)	0.4	0.75	1.5	2.2	3.7
Capacity (kVA)	0.9	1.6	2.7	3.7	5.9
Output Current (A)	1.2	2.4	3.9	5.3	8.5
Output Voltage (depending on input voltage)	380-480V 50/60Hz				
Voltage Fluctuation permissible	325-528V 50/60Hz				
Height (mm)	128	128	128	128	128
Width (mm)	108	108	108	108	108
Depth (mm)	129.5	129.5	135.5	155.5	165.5
Approx. weight (kg)	1.5	1.5	1.5	1.6	1.7
Radio Filter Ref: FFR-S540-...-RF100	8A	8A	8A	13A	13A

*For Chokes, Reactors & other options, please contact your nearest branch*

## Options & Accessories

Parameter Copy Unit	FR-PU04 with cable
External Cable for PU 1 meter 3 meters 5 meters	FR-CB201 FR-CB203 FR-CB205
RS485 Serial Comms	std
Direct Connection Cable for E series HMI	CAB9-HMI E-FREQROL

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SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
158463	FR-S540E-0.4K-EC	0.4 kW Three phase micro inverter FR-PU04 compatible, 1.2 A (CT)	£156.00	Call	Call
158464	FR-S540E-0.75K-EC	0.75 kW Three phase micro inverter FR-PU04 compatible, 2.4 A (CT)	£173.00	Call	Call
158465	FR-S540E-1.5K-EC	1.5 kW Three phase micro inverter FR-PU04 compatible, 3.9 A (CT)	£195.00	Call	Call
158466	FR-S540E-2.2K-EC	2.2 kW Three phase micro inverter FR-PU04 compatible, 5.3 A (CT)	£228.00	Call	Call
158467	FR-S540E-3.7K-EC	3.7 kW Three phase micro inverter FR-PU04 compatible, 8.5 A (CT)	£335.00	Call	Call
138425	FFR-S540-8A-RF100	Radio filter for 0.4, 0.75 & 1.5 kW drives	£33.00	Call	Call
138423	FFR-S540-13A-RF100	Radio filter for 2.2 & 3.7 kW drives	£46.00	Call	Call
67735	FR-PU04	10 key parameter unit	£59.00	Call	Call
76002	FR-CB201	Programming extension cable, 1 meter	£16.00	Call	Call
76003	FR-CB203	Programming extension cable, 3 meters	£23.00	Call	Call
76004	FR-CB205	Programming extension cable, 5 meters	£36.00	Call	Call
130049	CAB9-HMI	Cable between E series HMI & FR inverters	£37.00	Call	Call

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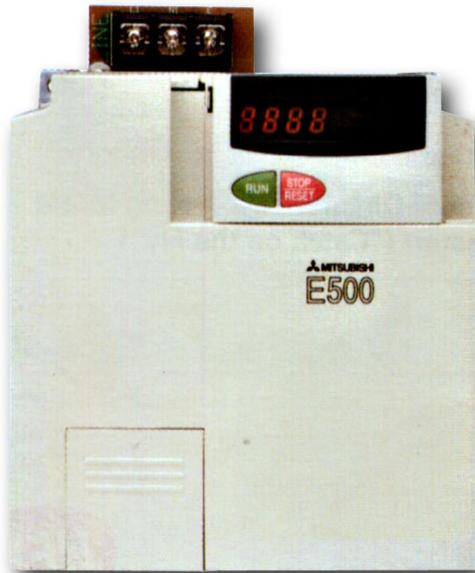
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# E520S

## product information



### **Single Phase Compact Drive**

- 0.4 – 2.2 kW
- Three Phase output up to 2.2 kW from single phase supply
- Accepts any supply from 170 – 264 volts
- Cassette filter design for low cost & simple EMC compliance
- Powerful protection – zero current detection & regen. overvoltage protection
- Compatible with MX500 set-up & programming software
- Auto-tuning sensorless vector control – up to 300% driving torque at 3 Hz
- Parameter copy & update capability
- ‘Soft PWM’ features – provides low audible motor noise, even at low switching frequencies
- Fieldbus Capability (DeviceNET, Profibus, CC-Link)
- Thyristor ‘pre-charge’ circuit – eliminates nuisance tripping of breakers / RCDs
- CE/UL/JEM design approved

The flexible, versatile and communication capabilities of the E500 range offer greater speed of set up, greater control and the ability to easily integrate into a huge range of applications – from food to pharmaceuticals and elevators to HVAC.



**Controls & Drives**

# E520S

## Specifications

All Models	
Power Rating	0.4 – 2.2 kW
Supply Conditions	1 ph 240 volts
Output Frequencies	0 - 400 Hz
Carrier Frequencies	up to 14.5 kHz
Torque / Speed	300% / 5 Hz
Vector Control	Yes
Auto Tune	Yes
Accel / Decel Times	0 – 3600 secs
Keypad	FR-PA02-02
Current Overload – 60 secs	150%
Current Overload – 0.5 secs	200%

FR-E520S-...K-EC	0.4	0.75	1.5	2.2
Motor Capacity (kW)	0.4	0.75	1.5	2.2
Capacity (kVA)	0.95	1.5	2.7	3.8
Output Current (A)	2.5	4	8	11
Output Voltage (depending on input voltage)	200-240V 50/60Hz			
Voltage Fluctuation permissible	170-264V 50/60Hz			
Height (mm)	150	150	150	150
Width (mm)	140	140	140	140
Depth (mm)	136	136	166	166
Approx. weight (kg)	1.9	1.9	2	2.1
Radio Filter Ref. (cassette) FFR-E5520S-...-SC1	14A	14A	26A	26A

*For Chokes, Reactors & other options, please contact your nearest branch*

Parameter Copy Unit	FR-PU04 with cable
External Cable for PU - 1 meter 3 meters 5 meters	FR-CB201 FR-CB203 FR-CB205
Profibus Module	FR-E5NP
DeviceNET Module	FR-E5ND
CC-Link Module	FR-E5NC
RS485 Serial Comms	std
Option for twisted pair connection	FR-E5MD
Direct Connection Cable for E series HMI	CAB9-HMI E-FREQROL

## Options & Accessories

*This document shows list prices, please contact your local branch for discounts*

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
102938	FR-E520S-0.4K-EC	0.4 kW single phase drive, high performance, compact inverter, 2.5 A (CT)	£117.00	Call	Call
102939	FR-E520S-0.75K-EC	0.75 kW single phase drive, high performance, compact inverter, 4 A (CT)	£137.00	Call	Call
102940	FR-E520S-1.5K-EC	1.5 kW single phase drive, high performance, compact inverter, 8 A (CT)	£229.00	Call	Call
102941	FR-E520S-2.2K-EC	2.2 kW single phase drive, high performance, compact inverter, 11 A (CT)	£269.00	Call	Call
103686	FR-PA02-02	Keypad	£24.00	Call	Call
125323	FR-E5P	Keypad Backplate	£12.00	Call	Call
67735	FR-PU04	10 key parameter unit	£59.00	Call	Call
76002	FR-CB201	Programming extension cable, 1 meter	£16.00	Call	Call
76003	FR-CB203	Programming extension cable, 3 meters	£23.00	Call	Call
76004	FR-CB205	Programming extension cable, 5 meters	£36.00	Call	Call
104556	FR-E5NP	Profibus interface, not KN type	£204.00	Call	Call
104557	FR-E5ND	DeviceNET interface, not KN type	£212.00	Call	Call
104558	FR-E5NC	CC-Link interface, not KN type	£125.00	Call	Call
131320	FR-E5MD	RS-485 Multidrop card, not KN type	£38.00	Call	Call
130049	CAB9-HMI	Cable between E series HMI & FR-A/E/F inverters	£37.00	Call	Call
152727	FFR-E520S-14A-SC1	Radio Filter 0.4 kW & 0.75 kW	£19.00	Call	Call
152730	FFR-E520S-26A-SC1	Radio Filter 1.5 kW & 2.2 kW	£23.00	Call	Call
140404	FR-E520S-0.4K-SET	Kit includes E520S-0.4K-EC drive, keypad, breaker & filter	£167.00	Call	Call
140406	FR-E520S-0.75K-SET	Kit includes E520S-0.75K-EC drive, keypad, breaker & filter	£186.00	Call	Call
140408	FR-E520S-1.5K-SET	Kit includes E520S-1.5K-EC drive, keypad, breaker & filter	£277.00	Call	Call
140409	FR-E520S-2.2K-SET	Kit includes E520S-2.2K-EC drive, keypad, breaker & filter	£315.00	Call	Call

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# E540

## product information



### **Three Phase Compact Drive**

- 0.4 – 7.5 kW
- High functionality – configurable control terminals
- Powerful protection – zero current detection & regen. overvoltage protection
- Compatible with MX500 set-up & programming software
- Auto-tuning sensorless vector control – up to 300% driving torque at 3 Hz
- Parameter copy & update capability
- ‘Soft PWM’ features – provides low audible motor noise, even at low switching frequencies
- Fieldbus Capability (DeviceNET, Profibus, CC-Link)
- Thyristor ‘pre-charge’ circuit – eliminates nuisance tripping of breakers / RCDs
- CE/UL/JEM design approved

The flexible, versatile and communication capabilities of the E500 range offer greater speed of set up, greater control and the ability to easily integrate into a huge range of applications – from food to pharmaceuticals and elevators to HVAC.



# Controls & Drives

## Specifications

Power Rating	0.4 – 7.5 kW
Supply Conditions	3 ph 415 volts
Output Frequencies	0 – 400 Hz
Carrier Frequencies	up to 14.5 kHz
Torque / Speed	300% / 5 Hz
Vector Control	Yes
Auto Tune	Yes
Accel / Decel Times	0 – 3600 secs
Keypad	FR-PA02-02
Current Overload – 60 secs	150%
Current Overload – 0.5 secs	200%

# E540

## Options & Accessories

Parameter Copy Unit	FR-PU04 with cable
External Cable for PU - 1 meter	FR-CB201
3 meters	FR-CB203
5 meters	FR-CB205
Profibus Module	FR-E5NP
DeviceNET Module	FR-E5ND
CC-Link Module	FR-E5NC
RS485 Serial Comms	std
Option for twisted pair connection	FR-E5MD
Direct Connection Cable for E series HMI	CAB9-HMI E-FREQROL
Regenerative Controller	FR-HC-H
IGBT Active Input Bridge (Zero Harmonic Module)	FR-HC-H
<i>For Chokes, Reactors &amp; other options, please contact your nearest branch</i>	

FR-E540-....K-EC	0.4	0.75	1.5	2.2	3.7	5.5	7.5
Motor Capacity (kW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5
Capacity (kVA)	1.2	2	3	4.6	7.2	9.1	13
Output Current (A)	1.6	2.6	4	6	9.5	12	17
Output Voltage (depending on input voltage)	380 – 480 V 50 / 60 Hz						
Voltage Fluctuation permissible	323 – 528 V 50 / 60 Hz						
Height (mm)	150	150	150	150	150	150	150
Width (mm)	140	140	140	140	140	220	220
Depth (mm)	116	116	136	136	136	148	148
Approx. weight (kg)	1.9	1.9	2	2.1	2.1	3.8	3.8
Radio Filter Ref (footprint types) FFR-E540-...-SF1	4.5A	4.5A	15A	15A	15A	27A	27A

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SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
69197	FR-E540-0.4K-EC	0.4 kW three phase drive, high performance, compact inverter, 1.6 A (CT)	£223.00	Call	Call
69198	FR-E540-0.75K-EC	0.75 kW three phase drive, high performance, compact inverter, 2.6 A (CT)	£237.00	Call	Call
69200	FR-E540-1.5K-EC	1.5 kW three phase drive, high performance, compact inverter, 4 A (CT)	£255.00	Call	Call
69201	FR-E540-2.2K-EC	2.2 kW three phase drive, high performance, compact inverter, 6 A (CT)	£353.00	Call	Call
69204	FR-E540-3.7K-EC	3.7 kW three phase drive, high performance, compact inverter, 9.5 A (CT)	£470.00	Call	Call
102942	FR-E540-5.5K-EC	5.5 kW three phase drive, high performance, compact inverter, 12 A (CT)	£569.00	Call	Call
102943	FR-E540-7.5K-EC	7.5 kW three phase drive, high performance, compact inverter, 17 A (CT)	£787.00	Call	Call
103686	FR-PA02-02	Keypad	£24.00	Call	Call
125323	FR-E5P	Keypad Backplate	£12.00	Call	Call
67735	FR-PU04	10 key parameter unit	£59.00	Call	Call
76002	FR-CB201	Programming extension cable, 1 meter	£16.00	Call	Call
76003	FR-CB203	Programming extension cable, 3 meters	£23.00	Call	Call
76004	FR-CB205	Programming extension cable, 5 meters	£36.00	Call	Call
104556	FR-E5NP	Profibus interface, not KN type	£204.00	Call	Call
104557	FR-E5ND	DeviceNET interface, not KN type	£212.00	Call	Call
104558	FR-E5NC	CC-Link interface, not KN type	£125.00	Call	Call
131320	FR-E5MD	RS-485 Multidrop card, not KN type	£38.00	Call	Call
	FR-HC-H	Regenerative Controller / IGBT Active Input Bridge	POA	Call	Call
130049	CAB9-HMI	Cable between E series HMI & FR-A/E/F inverters	£37.00	Call	Call
126654	FFR-E540-4.5A-SF1	Radio filter (E540 0.4 kW & 0.75 kW)	£32.00	Call	Call
126655	FFR-E540-15A-SF1	Radio filter (E540 1.5 kW, 2.2 kW & 3.7 kW)	£38.00	Call	Call
126656	FFR-E540-27A-SF1	Radio filter (E540 5.5 kW & 7.5 kW)	£60.00	Call	Call

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# F740

## product information



### **Energy-Saving Drive**

- 0.75 kW – 55 kW
- Integrated EMC filter
- Extended energy-saving functions
- Automatic restart after power failures
- PTC input
- Extended PID function
- Simple Magnetic Flux Vector Control
- Long service life & simplified maintenance
- Anti-windmill function
- Conforms to international CE, UL, cUL standards

**Extended energy-saving functions** – the new F740 has exceptional energy-saving capabilities, particularly for pump & fan applications. Crucially, it achieves the most drastic energy savings in the important low speed range & during the acceleration & braking phases. Additional savings are available through Mitsubishi's pioneering "Optimum Excitation Control" which ensures that the optimum flux is delivered to the motor at all times.

**Long service life & simplified maintenance** – many intelligent design features & new components increase the service life of the F740 to over 10 years. The integrated self-diagnostics system automatically displays warning messages when the maximum service life of a component has been reached.

**Anti-windmill function** – if the drive system is already turning, for example because of a draught on a fan, the F740 can register the motor's current speed & direction & synchronise itself accordingly.



# F740

## Controls & Drives Specifications

Power Rating	0.75 – 55 kW
Power Supply	3 ph 380-480 volts
Output Frequencies	0.5 – 400 Hz
Carrier Frequencies	Up to 14.5 kHz
Torque / Speed	120% / 3 Hz
Flux Optimisation (e/save)	Yes
Intelligent Functions	Yes
Accel / Decel Times	0 – 3600 secs
Keypad	FR-DU07 – std FR-PU07 - option
Current Overload – 60 secs	LD-120% SLD-110%
Current Overload – 3 secs	LD-150% SLD-120%

## Options & Accessories

Parameter Copy Unit	FR-PU07 (FR-DU07 std)
External Cable for PU - 1 meter	FR-CB201
3 meters	FR-CB203
5 meters	FR-CB205
FR-DU07 to cable connector	FR-ADP
LonWorks Module	FR-A7NL
Profibus Module	FR-A7NP
DeviceNET Module	FR-A7ND
Modbus+ Module	FR-A7NM
CC-Link Module	FR-A7NC
RS485/Modbus RTU Serial Comms	std
Twisted pair connection	std
Direct Connection Cable for E series HMI	CAB9-HMI E-FREQROL
Regenerative Controller	FR-HC-H
IGBT Active Input Bridge (Zero Harmonic Module)	FR-HC-H
<i>For Chokes, Reactors &amp; other options, please contact your nearest branch</i>	

\*\* SLD (Super Light Duty) = fans, clean water pumps, etc. \*\* LD (Light Duty) = cyclic duty fans, sewage pumps, non-indexing conveyors, etc.

FR-F740-.....-EC	00023	00038	00052	00083	00126	00170	00250	00310	00380	00470	00620	00770	00930	01160
Rated capacity (kVA)	1.6	2.7	3.7	5.8	8.8	12.2	17.5	22.1	26.7	32.8	43.4	53.3	64.8	80.8
Rated current (A)	SLD**	2.3	3.8	5.2	8.3	12.6	17	25	31	38	47	62	77	93
	LD***	2.1	3.5	4.8	7.6	11.5	16	23	29	35	43	57	70	85
Height (mm)	260	260	260	260	260	260	260	300	300	400	400	550	550	550
Width (mm)	150	150	150	150	150	220	220	220	220	250	250	325	435	435
Depth (mm)	140	140	140	140	140	170	170	190	190	190	190	195	250	250
Approx. weight (kg)	3.5	3.5	3.5	3.5	3.5	6.5	6.5	7.5	7.5	13	13	23	35	35

***This document shows list prices, please contact your local branch for discounts***

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
156569	FR-F740-00023-EC	VT three phase drive, SLD - 2.3 amps, LD - 2.1 amps	£432.00	Call	Call
156570	FR-F740-00038-EC	VT three phase drive, SLD - 3.8 amps, LD - 3.5 amps	£460.00	Call	Call
156571	FR-F740-00052-EC	VT three phase drive, SLD - 5.2 amps, LD - 4.8 amps	£510.00	Call	Call
156572	FR-F740-00083-EC	VT three phase drive, SLD - 8.3 amps, LD - 7.6 amps	£582.00	Call	Call
156573	FR-F740-00126-EC	VT three phase drive, SLD - 12.6 amps, LD - 11.5 amps	£652.00	Call	Call
156594	FR-F740-00170-EC	VT three phase drive, SLD - 17 amps, LD - 16 amps	£758.00	Call	Call
156595	FR-F740-00250-EC	VT three phase drive, SLD - 25 amps, LD - 23 amps	£855.00	Call	Call
156596	FR-F740-00310-EC	VT three phase drive, SLD - 31 amps, LD - 29 amps	£1,062.00	Call	Call
156597	FR-F740-00380-EC	VT three phase drive, SLD - 38 amps, LD - 35 amps	£1,304.00	Call	Call
156598	FR-F740-00470-EC	VT three phase drive, SLD - 47 amps, LD - 43 amps	£1,742.00	Call	Call
156599	FR-F740-00620-EC	VT three phase drive, SLD - 62 amps, LD - 57 amps	£2,179.00	Call	Call
169827 + 189878	FR-AF740-00770-EC + FR-CF70-EC	VT three phase drive, SLD - 77 amps, LD - 70 amps	£2,709.00	Call	Call
169828 + 189878	FR-AF740-00930-EC + FR-CF70-EC	VT three phase drive, SLD - 93 amps, LD - 85 amps	£3,290.00	Call	Call
169829 + 189878	FR-AF740-01160-EC + FR-CF70-EC	VT three phase drive, SLD - 116 amps, LD - 106 amps	£3,900.00	Call	Call
156777	FR-A7AR	Relay output function (3 circuits)	£65.00	Call	Call
156775	FR-A7AX	16 bit digital input module	£65.00	Call	Call
156776	FR-A7AY	Analogue / Digital output module	£95.00	Call	Call
156779	FR-A7NL	LonWorks communication module	£185.00	Call	Call
158524	FR-A7NP	Profibus interface	£185.00	Call	Call
158525	FR-A7ND	DeviceNET interface	£185.00	Call	Call
156778	FR-A7NC	CC link interface	£130.00	Call	Call
144721	FR-CB2-485	RS485 multidrop cable & connector	£11.00	Call	Call
157514	FR-DU07	Parameter unit - standard with all F740 drives	£37.00	Call	Call
166134	FR-PU07	10 key parameter unit	£59.00	Call	Call
76002	FR-CB201	Programming extension cable, 1 meter	£16.00	Call	Call
76003	FR-CB203	Programming extension cable, 3 meter	£23.00	Call	Call
76004	FR-CB205	Programming extension cable, 5 meter	£36.00	Call	Call
159637	FR-CB201-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 1 metre	£21.00	Call	Call
159638	FR-CB203-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 3 metre	£27.00	Call	Call
159640	FR-CB205-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 5 metre	£40.00	Call	Call
157515	FR-ADP	Connector for remote mounting of FR-DU07 to existing cable	£14.00	Call	Call
130049	FR-HC-H	Regenerative Controller / IGBT Active Input Bridge	POA	Call	Call
130049	CAB9-HMI	Cable between E series HMI & FR-AE/F inverters	£37.00	Call	Call

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**specification – prices – specification – prices**

# F740

## product information



### *Energy-Saving Drive*

- *75 kW – 630 kW*
- *Integrated EMC filter*
- *DC reactor supplied as standard*
- *Extended energy-saving functions*
- *Automatic restart after power failures*
- *PTC input*
- *Extended PID function*
- *Simple Magnetic Flux Vector Control*
- *Long service life & simplified maintenance*
- *Anti-windmill function*
- *Conforms to international CE, UL, cUL standards*

**Extended energy-saving functions** – the new F740 has exceptional energy-saving capabilities, particularly for pump & fan applications. Crucially, it achieves the most drastic energy savings in the important low speed range & during the acceleration & braking phases. Additional savings are available through Mitsubishi's pioneering "Optimum Excitation Control" which ensures that the optimum flux is delivered to the motor at all times.

**Long service life & simplified maintenance** – many intelligent design features & new components increase the service life of the F740 to over 10 years. The integrated self-diagnostics system automatically displays warning messages when the maximum service life of a component has been reached.

**Anti-windmill function** – if the drive system is already turning, for example because of a draught on a fan, the F740 can register the motor's current speed & direction & synchronise itself accordingly.



# Controls & Drives

## Specifications

Power Rating	75 – 630 kW
Power Supply	3 ph 380-500 volts
Output Frequencies	0.5 – 400 Hz
Carrier Frequencies	Up to 6 kHz
Torque / Speed	120% / 3 Hz
Flux Optimisation (e/save)	Yes
Intelligent Functions	Yes
Accel / Decel Times	0 – 3600 secs
Keypad	FR-DU07 – std FR-PU07 - option
Current Overload – 60 secs	LD-120% SLD-110%
Current Overload – 3 secs	LD-150% SLD-120%

## Options & Accessories

Parameter Copy Unit	FR-PU07 (FR-DU07 std)
External Cable for PU - 1 meter 3 meters 5 meters	FR-CB201 FR-CB203 FR-CB205
FR-DU07 to cable connector	FR-ADP
LonWorks Module	FR-A7NL
Profibus Module	FR-A7NP
DeviceNET Module	FR-A7ND
Modbus+ Module	FR-A7NM
CC-Link Module	FR-A7NC
RS485/Modbus RTU Serial Comms	std
Twisted pair connection	std
Direct Connection Cable for E series HMI	CAB9-HMI E-FREQROL
Regenerative Controller	FR-HC-H
IGBT Active Input Bridge (Zero Harmonic Module)	FR-HC-H

*For Chokes, Reactors & other options, please contact your nearest branch*

\*\* SLD (Super Light Duty) = fans, clean water pumps, etc. \*\*\* LD (Light Duty) = cyclic duty fans, sewage pumps, non-indexing conveyors, etc.

FR-F740-.....-EC/1	01800	02160	02600	03250	03610	04320	04810	05470	06100	06830	07700	08660	09620	10940	12120	
Rated capacity (kVA)	SLD**	137	165	198	247	275	329	366	416	464	520	586	659	733	833	923
	LD***	110	137	165	198	247	275	329	366	416	464	520	586	659	733	833
Rated current (A)	SLD**	180	216	260	325	361	432	481	547	610	683	770	866	962	1094	1212
	LD***	144	180	216	260	325	361	432	481	547	610	683	770	866	962	1094
Height (mm)		550	620	620	740	740	1010	1010	1010	1010	1330	1330	1580	1580	1580	
Width (mm)		435	465	465	465	465	498	498	680	680	680	790	790	995	995	
Depth (mm)		250	300	300	360	360	380	380	380	380	440	440	440	440	440	
Approx. weight (kg)		37	50	57	72	72	110	110	220	220	220	235	235	370	370	

**This document shows list prices, please contact your local branch for discounts**

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
169830 + 189879	FR-AF740-01800-EC + FR-CF70-ECT	VT three phase drive, SLD - 180 amps, LD - 144 amps	£4,153.00	Call	Call
169831 + 189879	FR-AF740-02160-EC + FR-CF70-ECT	VT three phase drive, SLD - 216 amps, LD - 180 amps	£4,667.00	Call	Call
169832 + 189879	FR-AF740-02600-EC + FR-CF70-ECT	VT three phase drive, SLD - 260 amps, LD - 216 amps	£5,313.00	Call	Call
169833 + 189879	FR-AF740-03250-EC + FR-CF70-ECT	VT three phase drive, SLD - 325 amps, LD - 260 amps	£6,520.00	Call	Call
169834 + 189879	FR-AF740-03610-EC + FR-CF70-ECT	VT three phase drive, SLD - 361 amps, LD - 325 amps	£7,453.00	Call	Call
169835 + 189879	FR-AF740-04320-EC + FR-CF70-ECT	VT three phase drive, SLD - 432 amps, LD - 361 amps	£8,784.00	Call	Call
169836 + 189879	FR-AF740-04810-EC + FR-CF70-ECT	VT three phase drive, SLD - 481 amps, LD - 432 amps	£10,482.00	Call	Call
169837 + 189879	FR-AF740-05470-EC + FR-CF70-ECT	VT three phase drive, SLD - 547 amps, LD - 481 amps	£11,470.00	Call	Call
169838 + 189879	FR-AF740-06100-EC + FR-CF70-ECT	VT three phase drive, SLD - 610 amps, LD - 547 amps	£13,938.00	Call	Call
169839 + 189879	FR-AF740-06830-EC + FR-CF70-ECT	VT three phase drive, SLD - 683 amps, LD - 610 amps	£14,161.00	Call	Call
169840 + 189879	FR-AF740-07700-EC + FR-CF70-ECT	VT three phase drive, SLD - 770 amps, LD - 683 amps	£14,822.00	Call	Call
169841 + 189879	FR-AF740-08660-EC + FR-CF70-ECT	VT three phase drive, SLD - 866 amps, LD - 770 amps	£22,213.00	Call	Call
169842 + 189879	FR-AF740-09620-EC + FR-CF70-ECT	VT three phase drive, SLD - 962 amps, LD - 866 amps	£34,000.00	Call	Call
169843 + 189879	FR-AF740-10940-EC + FR-CF70-ECT	VT three phase drive, SLD - 1,094 amps, LD - 962 amps	£37,894.00	Call	Call
169844 + 189879	FR-AF740-12120-EC + FR-CF70-ECT	VT three phase drive, SLD - 1,212 amps, LD - 1,094 amps	£40,496.00	Call	Call
156777	FR-A7AR	Relay output function (3 circuits)	£65.00	Call	Call
156775	FR-A7AX	16 bit digital input module	£65.00	Call	Call
156776	FR-A7AY	Analogue / Digital output module	£95.00	Call	Call
156779	FR-A7NL	LonWorks communication module	£185.00	Call	Call
158524	FR-A7NP	Profibus interface	£185.00	Call	Call
158525	FR-A7ND	DeviceNET interface	£185.00	Call	Call
156778	FR-A7NC	CC link interface	£130.00	Call	Call
144721	FR-CB2-485	RS485 multidrop cable & connector	£11.00	Call	Call
157514	FR-DU07	Parameter unit - standard with all F740 drives	£37.00	Call	Call
166134	FR-PU07	10 key parameter unit	£59.00	Call	Call
76002	FR-CB201	Programming extension cable, 1 meter	£16.00	Call	Call
76003	FR-CB203	Programming extension cable, 3 meter	£23.00	Call	Call
76004	FR-CB205	Programming extension cable, 5 meter	£36.00	Call	Call
159637	FR-CB201-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 1 metre	£21.00	Call	Call
159638	FR-CB203-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 3 metre	£27.00	Call	Call
159640	FR-CB205-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 5 metre	£40.00	Call	Call
157515	FR-ADP	Connector for remote mounting of FR-DU07 to existing cable	£14.00	Call	Call
	FR-HC-H	Regenerative Controller / IGBT Active Input Bridge	POA	Call	Call
130049	CAB9-HMI	Cable between E series HMI & FR-A/E/F inverters	£37.00	Call	Call

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### IP54 Energy-Saving Drive

- 0.75 kW – 55 kW
- IP54 protection rating
- Dust & splash proofed
- Ideal for building services automation, heating, ventilation, air conditioning, commercial & industrial fan & pump applications
- Simple configuration & operation with the one-touch Digital Dial
- Extensive control & data management features, including servicing timer
- OEC (Optimum Excitation Control) technology for maximum energy savings

All specifications, options, accessories, etc. are the same as for the F740, which are shown on the previous pages.

FR-F746-.....-EC	00023	00038	00052	00083	00126	00170	00250	00310	00380	00470	00620	00770	00930	01160
Height (mm)	395	395	395	395	395	395	395	445	445	560	560	590	660	660
Width (mm)	249	249	249	249	249	319	319	319	319	354	354	360	471	471
Depth (mm)	210	210	210	210	210	240	240	260	260	260	260	265	320	320
Fixing Height (mm)	380	380	380	380	380	380	380	425	425	540	540	570	635	635
Fixing Width (mm)	180	180	180	180	180	255	255	258	258	312	312	300	411	411
Approx. weight (kg)	12.5	12.5	12.5	12.5	12.5	18.5	18.5	21.5	21.5	30	30	37	42	42

*This document shows list prices, please contact your local branch for discounts*

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
163796	FR-F746-00023-EC	IP54 VT three phase drive, SLD - 2.3 amps, LD - 2.1 amps	£569.00	Call	Call
163797	FR-F746-00038-EC	IP54 VT three phase drive, SLD - 3.8 amps, LD - 3.5 amps	£597.00	Call	Call
163798	FR-F746-00052-EC	IP54 VT three phase drive, SLD - 5.2 amps, LD - 4.8 amps	£647.00	Call	Call
163799	FR-F746-00083-EC	IP54 VT three phase drive, SLD - 8.3 amps, LD - 7.6 amps	£719.00	Call	Call
163800	FR-F746-00126-EC	IP54 VT three phase drive, SLD - 12.6 amps, LD - 11.5 amps	£789.00	Call	Call
163801	FR-F746-00170-EC	IP54 VT three phase drive, SLD - 17 amps, LD - 16 amps	£960.00	Call	Call
163802	FR-F746-00250-EC	IP54 VT three phase drive, SLD - 25 amps, LD - 23 amps	£1,057.00	Call	Call
163803	FR-F746-00310-EC	IP54 VT three phase drive, SLD - 31 amps, LD - 29 amps	£1,273.00	Call	Call
163804	FR-F746-00380-EC	IP54 VT three phase drive, SLD - 38 amps, LD - 35 amps	£1,515.00	Call	Call
163805	FR-F746-00470-EC	IP54 VT three phase drive, SLD - 47 amps, LD - 43 amps	£1,977.00	Call	Call
163806	FR-F746-00620-EC	IP54 VT three phase drive, SLD - 62 amps, LD - 57 amps	£2,414.00	Call	Call
163807	FR-F746-00770-EC	IP54 VT three phase drive, SLD - 77 amps, LD - 70 amps	£2,985.00	Call	Call
163808	FR-F746-00930-EC	IP54 VT three phase drive, SLD - 93 amps, LD - 85 amps	£3,743.00	Call	Call
163809	FR-F746-01160-EC	IP54 VT three phase drive, SLD - 116 amps, LD - 106 amps	£4,353.00	Call	Call

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**Controls & Drives**

# FSU

## product information



### IP20 Floor Standing Units for A740 & F740

- To fit A740 & F740 drives 00930+
- Available with or without MCCB
- Up to 40% cost saving compared to a conventional cabinet
- Assembly in under 1 hour
- Pre-prepared drilling & separate delivery to reduce size & weight
- Stand alone (enclosed rear) or wall mounting possible
- Includes all necessary cables, screws, terminals, etc.

Note: The prices shown below are for the FSU only, the drive must be purchased separately. Drive prices, specifications, etc. are shown on other pages.

*This document shows list prices, please contact your local branch for discounts*

#### Floor Standing Unit for F740

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
163994	FR-FSU-01800	Floor Standing Unit for FR-AF740-00930 to 01800	£475.00	Call	Call
163995	FR-FSU-02600	Floor Standing Unit for FR-AF740-02160 to 02600	£523.00	Call	Call
163996	FR-FSU-03610	Floor Standing Unit for FR-AF740-03250 to 03610	£690.00	Call	Call
163997	FR-FSU-04810	Floor Standing Unit for FR-AF740-04320 to 04810	£761.00	Call	Call
163998	FR-FSU-06830	Floor Standing Unit for FR-AF740-05470 to 06830	£862.00	Call	Call
164783	FR-FSU-08660	Floor Standing Unit for FR-AF740-07700 to 08660	£960.00	Call	Call

#### Floor Standing Unit for F740 with MCCB

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
164791	FR-FSU-01800-RE250	Floor Standing Unit for FR-AF740-01160 to 01800 with MCCB: NF250-SGW 3P RE 125-250A	£635.00	Call	Call
164792	FR-FSU-02600-RE250	Floor Standing Unit for FR-AF740-02160 with MCCB: NF250-SGW 3P RE 125-250A	£684.00	Call	Call
164793	FR-FSU-02600-RE400	Floor Standing Unit for FR-AF740-02600 with MCCB: NF400-SEP 3P 200-400A	£748.00	Call	Call
164794	FR-FSU-03610-RE400	Floor Standing Unit for FR-AF740-03250 to 03610 with MCCB: NF400-SEP 3P 200-400A	£915.00	Call	Call
164795	FR-FSU-04810-RE630	Floor Standing Unit for FR-AF740-04320 to 04810 with MCCB: NF630-SEP 3P 300-630A	£1,037.00	Call	Call
164796	FR-FSU-06830-RE630	Floor Standing Unit for FR-AF740-05470 with MCCB: NF630-SEP 3P 300-630A	£1,139.00	Call	Call
164798	FR-FSU-06830-RE800	Floor Standing Unit for FR-AF740-06100 to 06830 with MCCB: NF800-SEP 3P 400-800A	£1,313.00	Call	Call
164799	FR-FSU-08660-RE1000	Floor Standing Unit for FR-AF740-07700 to 08660 with MCCB: NF1000-SS 3P 500-1000A	£1,518.00	Call	Call

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Controls & Drives

# A740

## product information



### High Speed Drive

- 0.4 – 45 kW
- 1K step built in PLC functionality
- Vector control using an optional encoder
- Torque control for holding at 0hz
- ASIC (Application Specific Integrated Circuit)
- Advanced Flux Vector Control technology
- On Line Auto Tuning for precision performance & stable high torque operation
- 'Soft PWM' system provides reduced levels of audible motor noise

**The new FR-A740** frequency inverters combine innovative functions and reliable technology with maximum power, economy and flexibility. The FR-A740 is particularly well suited for demanding applications like cranes and lifting gear, high-bay warehousing systems, extruders, centrifuges and winding machines.

**Precision without encoders** – even without an encoder, the FR-A740 continuously calculates the optimum magnetic flux for every operating state.

**Ultra-precise speed and torque** – when operated with encoders, the FR-A740 drives impress with ultra-precise speeds across the entire control range. This outstanding performance makes it possible to switch from simple servos to inexpensive frequency inverter systems.

**Cost effective positioning** – in combination with closed-loop vector control, the FR-A740 can also be used for positioning, with the control being realised via pulse train, digital inputs or network.

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# Controls & Drives

# A740

## Specifications

Power Rating	0.4 – 45 kW
Supply Conditions	3 ph 415 volts
Output Frequencies	0 – 400 Hz
Carrier Frequencies	up to 14.5 kHz
Torque / Speed	250% / 0.5 Hz
Vector Control	Yes
Intelligent Functions	Yes
Auto Tune	Yes
Accel / Decel Times	0 – 3600 secs
Keypad	FR-DU07 – std FR-PU07 – option
Current Overload – 60 secs	150%
Current Overload – 3 secs	200%

## Options & Accessories

Parameter Copy Unit	FR-PU07 (FR-DU07 std)
Encoder Feedback	FR-A7AP
External Cable for PU - 1 meter	FR-CB201
3 meters	FR-CB203
5 meters	FR-CB205
Profibus Module	FR-A7NP
DeviceNET Module	FR-A7ND
Lonworks Module	FR-A7NL
CC-Link Module	FR-A7NC
RS485 Serial Comms	std
Analogue/Digital output module	FR-A7AY
Direct Connection Cable for E series HMI	CAB9-HMI
Regenerative Controller	FR-HC-H
IGBT Active Input Bridge (Zero Harmonic Module)	FR-HC-H

*For Chokes, Reactors & other options, please contact your nearest branch*

FR-A740-.....-EC	00023	00038	00052	00083	00126	00170	00250	00310	00380	00470	00620	00770	00930	01160
Rated capacity (kVA)	1.1	1.9	3	4.6	6.9	9.1	13	17.5	23.6	29	32.8	43.4	54	65
Rated current (A)	SLD	2.3	3.8	5.2	8.3	12.6	17	25	31	38	47	62	77	93
	LD	2.1	3.5	4.8	7.6	11.5	16	23	29	35	43	57	70	85
	ND	1.5	2.5	4	6	9	12	17	23	31	38	44	57	71
	HD	0.8	1.5	2.5	4	6	9	12	17	23	31	38	44	57
Height (mm)	260	260	260	260	260	260	260	300	300	400	400	550	550	550
Width (mm)	150	150	150	150	150	220	220	220	220	250	250	325	435	435
Depth (mm)	140	140	140	140	140	170	170	190	190	190	190	195	250	250
Approx. weight (kg)	3.8	3.8	3.8	3.8	3.8	7.1	7.1	7.5	7.5	13	13	23	35	35

***This document shows list prices, please contact your local branch for discounts***

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
169826	FR-A740-00023-EC	CT three phase drive, 1.5 amp rated for normal duty	£507.00	Call	Call
169797	FR-A740-00038-EC	CT three phase drive, 2.5 amp rated for normal duty	£535.00	Call	Call
169798	FR-A740-00052-EC	CT three phase drive, 4 amp rated for normal duty	£585.00	Call	Call
169799	FR-A740-00083-EC	CT three phase drive, 6 amp rated for normal duty	£657.00	Call	Call
169800	FR-A740-00126-EC	CT three phase drive, 9 amp rated for normal duty	£727.00	Call	Call
169801	FR-A740-00170-EC	CT three phase drive, 12 amp rated for normal duty	£833.00	Call	Call
169802	FR-A740-00250-EC	CT three phase drive, 17 amp rated for normal duty	£930.00	Call	Call
169803	FR-A740-00310-EC	CT three phase drive, 23 amp rated for normal duty	£1,137.00	Call	Call
169804	FR-A740-00380-EC	CT three phase drive, 31 amp rated for normal duty	£1,379.00	Call	Call
169805	FR-A740-00470-EC	CT three phase drive, 38 amp rated for normal duty	£1,817.00	Call	Call
169806	FR-A740-00620-EC	CT three phase drive, 44 amp rated for normal duty	£2,254.00	Call	Call
169827 + 169877	FR-AF740-00770-EC + FR-CA70-EC	CT three phase drive, 57 amp rated for normal duty	£3,144.00	Call	Call
169828 + 169877	FR-AF740-00930-EC + FR-CA70-EC	CT three phase drive, 71 amp rated for normal duty	£3,725.00	Call	Call
169829 + 169877	FR-AF740-01160-EC + FR-CA70-EC	CT three phase drive, 86 amp rated for normal duty	£4,335.00	Call	Call
156777	FR-A7AR	Relay output function (3 circuits)	£65.00	Call	Call
156775	FR-A7AX	16 bit digital input module	£65.00	Call	Call
156776	FR-A7AY	Analogue / Digital output module	£95.00	Call	Call
166133	FR-A7AP	Encoder feedback interface	£88.00	Call	Call
156779	FR-A7NL	LonWorks communication module	£185.00	Call	Call
158524	FR-A7NP	Profibus interface	£185.00	Call	Call
158525	FR-A7ND	DeviceNET interface	£185.00	Call	Call
156778	FR-A7NC	CC link interface	£130.00	Call	Call
144721	FR-CB2-485	RS485 multidrop cable & connector	£11.00	Call	Call
157514	FR-DU07	Parameter unit - standard with all F740 drives	£37.00	Call	Call
166134	FR-PU07	10 key parameter unit	£59.00	Call	Call
76002	FR-CB201	Programming extension cable, 1 meter	£16.00	Call	Call
76003	FR-CB203	Programming extension cable, 3 meter	£23.00	Call	Call
76004	FR-CB205	Programming extension cable, 5 meter	£36.00	Call	Call
159637	FR-CB201-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 1 metre	£21.00	Call	Call
159638	FR-CB203-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 3 metre	£27.00	Call	Call
159640	FR-CB205-ADP	Programming extension cable for DU07, inc. FR-ADP connector, 5 metre	£40.00	Call	Call
157515	FR-ADP	Connector for remote mounting of FR-DU07 to existing cable	£14.00	Call	Call
130049	CAB9-HMI	Cable between E series HMI & FR-A/E/F inverters	£37.00	Call	Call

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**Welwyn**  
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Controls & Drives

# A740

## product information



### High Speed Drive

- 55 – 500 kW
- 1K step built in PLC functionality
- Vector control using an optional encoder
- Torque control for holding at 0hz
- ASIC (Application Specific Integrated Circuit)
- Advanced Flux Vector Control technology
- On Line Auto Tuning for precision performance & stable high torque operation
- 'Soft PWM' system provides reduced levels of audible motor noise

**The new FR-A740** frequency inverters combine innovative functions and reliable technology with maximum power, economy and flexibility. The FR-A740 is particularly well suited for demanding applications like cranes and lifting gear, high-bay warehousing systems, extruders, centrifuges and winding machines.

**Precision without encoders** – even without an encoder, the FR-A740 continuously calculates the optimum magnetic flux for every operating state.

**Ultra-precise speed and torque** – when operated with encoders, the FR-A740 drives impress with ultra-precise speeds across the entire control range. This outstanding performance makes it possible to switch from simple servos to inexpensive frequency inverter systems.

**Cost effective positioning** – in combination with closed-loop vector control, the FR-A740 can also be used for positioning, with the control being realised via pulse train, digital inputs or network.

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**Controls & Drives**

# A740

## Specifications

Power Rating	55 – 500 kW
Supply Conditions	3 ph 415 volts
Output Frequencies	0 – 400 Hz
Carrier Frequencies	up to 14.5 kHz
Torque / Speed	250% / 0.5 Hz
Vector Control	Yes
Intelligent Functions	Yes
Auto Tune	Yes
Accel / Decel Times	0 – 3600 secs
Keypad	FR-DU07 – std FR-PU07 - option
Current Overload – 60 secs	150%
Current Overload – 3 secs	200%

## Options & Accessories

Parameter Copy Unit	FR-PU07 (FR-DU07 std)
Encoder Feedback	FR-A7AP
External Cable for PU -	FR-CB201 FR-CB203 FR-CB205
Profibus Module	FR-A7NP
DeviceNET Module	FR-A7ND
Lonworks Module	FR-A7NL
CC-Link Module	FR-A7NC
RS485 Serial Comms	std
Analogue/Digital output module	FR-A7AY
Direct Connection Cable for E series HMI	CAB9-HMI
Regenerative Controller	FR-HC-H
IGBT Active Input Bridge (Zero Harmonic Module)	FR-HC-H

*For Chokes, Reactors & other options, please contact your nearest branch*

FR-AF740-.....-EC	01800	02160	02600	03250	03610	04320	04810	05470	06100	06830	07700	08660	09620	10940	12120
Rated capacity (kVA)	84	110	137	165	198	248	275	329	367	417	465	521	587	660	733
Rated current (A)	SLD	180	216	260	325	361	432	481	547	610	683	770	866	962	1094
	LD	144	180	216	260	325	361	432	481	547	610	683	770	866	962
	ND	110	144	180	216	260	325	361	432	481	547	610	683	770	866
	HD	86	110	144	180	216	260	325	361	432	481	547	610	683	770
Height (mm)	550	620	620	740	740	1010	1010	1010	1010	1010	1330	1330	1580	1580	1580
Width (mm)	435	465	465	465	465	498	498	680	680	680	790	790	995	995	995
Depth (mm)	250	300	300	360	360	380	380	380	380	380	440	440	440	440	440
Approx. weight (kg)	37	50	57	72	72	110	110	175	175	175	260	260	370	370	370

**This document shows list prices, please contact your local branch for discounts**

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
169830 + 169877	FR-AF740-01800-EC + FR-CA70-EC	CT three phase drive, 110 amp rated at normal duty	£4,563.00	Call	Call
169831 + 190051	FR-AF740-02160-EC + FR-CA70-ECT	CT three phase drive, 144 amp rated at normal duty	£5,347.00	Call	Call
169832 + 190051	FR-AF740-02600-EC + FR-CA70-ECT	CT three phase drive, 180 amp rated at normal duty	£5,993.00	Call	Call
169833 + 190051	FR-AF740-03250-EC + FR-CA70-ECT	CT three phase drive, 216 amp rated at normal duty	£7,200.00	Call	Call
169834 + 190051	FR-AF740-03610-EC + FR-CA70-ECT	CT three phase drive, 260 amp rated at normal duty	£8,133.00	Call	Call
169835 + 190051	FR-AF740-04320-EC + FR-CA70-ECT	CT three phase drive, 325 amp rated at normal duty	£9,464.00	Call	Call
169836 + 190051	FR-AF740-04810-EC + FR-CA70-ECT	CT three phase drive, 361 amp rated at normal duty	£11,162.00	Call	Call
169837 + 190051	FR-AF740-05470-EC + FR-CA70-ECT	CT three phase drive, 432 amp rated at normal duty	£12,150.00	Call	Call
169838 + 190051	FR-AF740-06100-EC + FR-CA70-ECT	CT three phase drive, 481 amp rated at normal duty	£14,618.00	Call	Call
169839 + 190051	FR-AF740-06830-EC + FR-CA70-ECT	CT three phase drive, 547 amp rated at normal duty	£14,841.00	Call	Call
169840 + 190051	FR-AF740-07700-EC + FR-CA70-ECT	CT three phase drive, 610 amp rated at normal duty	£15,502.00	Call	Call
169841 + 190051	FR-AF740-08660-EC + FR-CA70-ECT	CT three phase drive, 683 amp rated at normal duty	£22,893.00	Call	Call
169842 + 190051	FR-AF740-09620-EC + FR-CA70-ECT	CT three phase drive, 770 amp rated at normal duty	£34,680.00	Call	Call
169843 + 190051	FR-AF740-10940-EC + FR-CA70-ECT	CT three phase drive, 866 amp rated at normal duty	£38,574.00	Call	Call
169844 + 190051	FR-AF740-12120-EC + FR-CA70-ECT	CT three phase drive, 962 amp rated at normal duty	£41,176.00	Call	Call
156777	FR-A7AR	Relay output function (3 circuits)	£65.00	Call	Call
156775	FR-A7AX	16 bit digital input module	£65.00	Call	Call
156776	FR-A7AY	Analogue / Digital output module	£95.00	Call	Call
166133	FR-A7AP	Encoder feedback interface	£88.00	Call	Call
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144721	FR-CB2-485	RS485 multidrop cable & connector	£11.00	Call	Call
157514	FR-DU07	Parameter unit - standard with all F740 drives	£37.00	Call	Call
166134	FR-PU07	10 key parameter unit	£59.00	Call	Call
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# “Drive in a Box” product information



## **1 & 3 ph Drives in an Enclosure**

- *Fully enclosed IP54 wall & floor mount panels*
- *Panels are painted mild steel – prices for other materials are available on request*
- *The standard prices include forced ventilation, where necessary, for ambient temperatures of < 30°C*
- *List of optional extras*

The “Drive in a Box” is available for Mitsubishi E520S single phase, E540 & F740 three phase Variable Speed Drives with prices for other drives & above 55 kW available on request.

The standard prices include the Mitsubishi drive, RFI filter, key-pad, din rail & terminals all mounted on a back-plate complete in an enclosure, with door mounted cooling fan where necessary.

Add any required option price to the “Drive in a Box” price for the total cost.

Just fix the panel into position, add power, motor cables & any control required.

“Drive in a Box” – the easiest way to add a Variable Speed Drive.

## Options

Options	Option Codes							
		A	B	C	D	E	F	G
Isolator	1	£70.00	£100.00	£104.00	£115.00	£121.00	£126.00	£137.00
Fwd/Rev door switch	2	£31.00	£36.00	£36.00	£36.00	£36.00	£36.00	£36.00
Pot on the door	3	£37.00	£42.00	£42.00	£42.00	£42.00	£42.00	£42.00
PU on the door	4	£58.00	£69.00	£69.00	£69.00	£69.00	£69.00	£69.00

*This document shows list prices, please contact your local branch for discounts*

Part No.	Drive	Dimensions H x W x D (mm)	Mounting	Price	Discount	Nett Price	Option Codes Available
<b>E520S</b>							
FRE520S0.4BOX	FR-E520S-0.4K-EC	500x300x200	Wall	£302.00	Call	Call	A
FRE520S0.75BOX	FR-E520S-0.75K-EC	500x300x200	Wall	£323.00	Call	Call	A
FRE520S1.5BOX	FR-E520S-1.5K-EC	500x400x250	Wall	£435.00	Call	Call	A
FRE520S2.2BOX	FR-E520S-2.2K-EC	500x400x250	Wall	£540.00	Call	Call	A
<b>E540</b>							
FRE5400.4BOX	FR-E540-0.4K-EC	600x400x250	Wall	£438.00	Call	Call	A
FRE5400.75BOX	FR-E540-0.75K-EC	600x400x250	Wall	£453.00	Call	Call	A
FRE5401.5BOX	FR-E540-1.5K-EC	600x400x250	Wall	£478.00	Call	Call	A
FRE5402.2BOX	FR-E540-2.2K-EC	600x400x250	Wall	£667.00	Call	Call	A
FRE5403.7BOX	FR-E540-3.7K-EC	600x400x250	Wall	£786.00	Call	Call	A
FRE5405.5BOX	FR-E540-5.5K-EC	700x500x250	Wall	£963.00	Call	Call	A
FRE5407.5BOX	FR-E540-7.5K-EC	800x600x250	Wall	£1,262.00	Call	Call	A
<b>F740</b>							
FRF7405.5BOX	FR-F740-00126-EC	800x600x300	Wall	£1,287.00	Call	Call	B
FRF7407.5BOX	FR-F740-00170-EC	800x600x300	Wall	£1,397.00	Call	Call	B
FRF74011BOX	FR-F740-00250-EC	800x600x400	Wall	£1,549.00	Call	Call	C
FRF74015BOX	FR-F740-00310-EC	1000x800x400	Wall	£1,854.00	Call	Call	C
FRF74018.5BOX	FR-F740-00380-EC	1000x800x400	Wall	£2,106.00	Call	Call	D
FRF74022BOX	FR-F740-00470-EC	1000x800x400	Wall	£2,646.00	Call	Call	D
FRF74030BOX	FR-F740-00620-EC	1400x600x400	Floor	£3,402.00	Call	Call	E
FRF74037BOX	FR-AF740-00770-EC + FR-CF70-EC	1400x600x400	Floor	£3,969.00	Call	Call	E
FRF74045BOX	FR-AF740-00930-EC + FR-CF70-EC	1400x600x400	Floor	£4,106.00	Call	Call	F
FRF74055BOX	FR-AF740-01160-EC + FR-CF70-EC	1400x600x400	Floor	£5,502.00	Call	Call	G

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# Mx 500

## product information



### **Programming Software**

- *Windows 98 & above compatible*
- *Copies/updates parameters*
- *Interactive help menu*
- *Up to 32 drives controlled at once*
- *Auto-tune feature for Vector control*
- *Intelligent recognition of drive type & options fitted*
- *Full commissioning diagnostics including oscilloscope function*
- *Automatic diagnostics feature*

The MELSoft Mx 500 inverter programming software package is designed to speed the set-up, commissioning and operation of all Mitsubishi 500/700 series drives. The Mx 500 package comprises the programming software and a specially designed communications cable that interfaces between a series 500/700 inverter and a standard laptop or any other PC running Windows 98 & above. The cable includes a protocol converter and needs no external power supply, so it is ideal for maintenance and diagnostic tasks on site. With Mx 500, programming a drive is as simple as 'connect each end and go'.



Controls & Drives

# Mx 500



## Mx 500 Inverter Programming Package

The new Mx 500 programming package is the latest addition to the Mitsubishi MELSoft software suite. Mx 500 is an inverter/drive commissioning and diagnostic tool which consists of:

- SC-FRPC communications cable
- FR-SW0-SETUP-WE programming software

Mx 500 can be used with laptops and PCs using Windows 98 & above. It can only be used with '500/700 series' drives.

It is possible to control up to 32 drives from a single connection point.



If you are using a single drive, all the software functions can be made without any parameter changes being made.

Mx 500 is the ideal companion to the 500/700 series range and will be invaluable to anyone involved in set-up, operation or commissioning.



### SC-FRPC communications cable.

This cable is specifically designed to interface between a standard laptop or other type of PC and any '500/700 series' drive. It includes a protocol converter and no external power supply is needed.



### FR-SW0-SETUP-WE programming software

The software allows the following operations to be carried out.

**System Setting** – Up to 32 inverters can be commissioned from a single PC using inbuilt RS485 communications.

**Parameter Editing** – Suites of Parameters can be simply loaded into inverters or saved onto disk for future use. Default and actual drive parameters can be read and altered as required.

**Monitoring** – All critical data can be monitored online. Up to 4 selected variables can be displayed continuously. These can be all from the same drive or from several linked inverters.

**Oscilloscope Function** – Allows selected variables to be plotted and reviewed against a time basis. This feature also allows site data to be stored on disk for future analysis or for printing into reports, etc.

**Diagnostics Facility** – Allows the software to suggest possible reasons why drive performance is not as expected. Full details of the last 8 error messages are also available, with plain English explanations.

**Configuration and Test Running** – The drive can be operated in test mode, to check direction or rotation and correct operation. Additionally, the inverter can be configured for sensorless vector operation entirely via the software. Following prompts, the software also allows drive set-up to be accomplished from data such as load type, thus avoiding the need for any knowledge of the parameter set.

**File Management** – All information obtained from the drive can be simply saved and recalled for future reference.

**Help Function** – A very detailed help function acts as a 'virtual manual' and allows fast diagnosis via word searches as with most standard Windows packages. Data is available both for the inverters and to provide help with the software.

A full instruction manual for the software can be found on the CD-ROM (PDF format).

***This document shows list prices, please contact your local branch for discounts***

SAP No.	Catalogue No.	Description	Price	Discount	Nett Price
132513	MX500	Programming software for inverters inc. cable	£249.00	Call	Call
88426	SC-FR-PC	MX500 Programming software cable	£120.00	Call	Call

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### Enclosure cooling fans

- Easy 'click in' installation
- Range of flowrates
- Range of suitable power supplies
- Minimal maintenance
- IP54 protection rating
- RAL7032 & RAL7035

The Texa range of ventilating units are a door or wall mounted range of fans and filters suitable for installation in enclosures. They have been designed to cool and prevent failure of electrical equipment.

All Texa units are quick and easy to install with a simple square cut and a 'click-in' installation method for the vast majority of enclosures. Once installed the enclosure can still be rated to IP54 standard.

All moving parts have been engineered to be highly reliable with an expected life of 30,000 hours.

A wide range of flowrates are available from 23 to 730 m<sup>3</sup>/h. These can be configured to blow in either direction at all sizes. Typically supply flow is used, this blows air into the enclosure and has the advantage of helping to keep dust off the electrical components.



Controls & Drives

# Texa fans



## Specifications

Air flow (m <sup>3</sup> h)	Voltage	Description	Dimensions (mm)			Part number
			Width	Height	Depth	
23 / 30	230	1ph, 50 / 60Hz fan	105	105	67	FAN08BNO*
	115	1ph, 50 / 60Hz fan	105	105	67	FAN08CNO*
	-	Exit grille	105	105	14	FIL08XNO*
57 / 61	230	1ph, 50 / 60Hz fan	150	150	71	FAN12BNO*
	115	1ph, 50 / 60Hz fan	150	150	71	FAN12CNO*
	-	Exit grille	150	150	28	FIL12XNO*
115 / 125	230	1ph, 50 / 60Hz fan	250	250	113	FAN23BNO*
	115	1ph, 50 / 60Hz fan	250	250	113	FAN23CNO*
	-	Exit grille	250	250	30	FIL25XNO*
230 / 262	230	1ph, 50 / 60Hz fan	250	250	121	FAN25BNO*
	115	1ph, 50 / 60Hz fan	250	250	121	FAN25CNO*
	-	Exit grille	250	250	30	FIL25XNO*
400 / 440	230	1ph, 50 / 60Hz fan	250	250	102	FAN28BNO*
	115	1ph, 50 / 60Hz fan	250	250	102	FAN28CNO*
	-	Exit grille	250	250	30	FIL25XNO*
520 / 580	230	1ph, 50 / 60Hz fan	325	325	161	FAN35BNO*
	115	1ph, 50 / 60Hz fan	325	325	161	FAN35CNO*
	-	Exit grille	325	325	30	FIL35XNO*
650 / 730	230	1ph, 50 / 60Hz fan	325	325	151	FAN39BPO*
	115	1ph, 50 / 60Hz fan	325	325	151	FAN39CPO*
	-	Exit grille	325	325	30	FIL35XNO*

\* NOTE: Replace \* with A for RAL7032 or B for RAL7035

For IP55 fans, spare filter material, etc. please contact your local branch.

*This document shows list prices, please contact your local branch for discounts*

### Texa enclosure cooling fans & filters

Part number	Description	Price	Discount	Nett price
FAN08BNO*	230V, 1ph, 50/60Hz 23/30m <sup>3</sup> h enclosure cooling fan	£34.92	Call	Call
FAN08CNO*	115V, 1ph, 50/60Hz 23/30m <sup>3</sup> h enclosure cooling fan	£36.54	Call	Call
FAN12BNO*	230V, 1ph, 50/60Hz 57/61m <sup>3</sup> h enclosure cooling fan	£56.23	Call	Call
FAN12CNO*	115V, 1ph, 50/60Hz 57/61m <sup>3</sup> h enclosure cooling fan	£60.01	Call	Call
FAN23BNO*	230V, 1ph, 50/60Hz 115/125m <sup>3</sup> h enclosure cooling fan	£65.63	Call	Call
FAN23CNO*	115V, 1ph, 50/60Hz 115/125m <sup>3</sup> h enclosure cooling fan	£67.37	Call	Call
FAN25BNO*	230V, 1ph, 50/60Hz 230/262m <sup>3</sup> h enclosure cooling fan	£71.54	Call	Call
FAN25CNO*	115V, 1ph, 50/60Hz 230/262m <sup>3</sup> h enclosure cooling fan	£78.46	Call	Call
FAN28BNO*	230V, 1ph, 50/60Hz 400/440m <sup>3</sup> h enclosure cooling fan	£102.42	Call	Call
FAN28CNO*	115V, 1ph, 50/60Hz 400/440m <sup>3</sup> h enclosure cooling fan	£108.32	Call	Call
FAN35BNO*	230V, 1ph, 50/60Hz 520/580m <sup>3</sup> h enclosure cooling fan	£91.01	Call	Call
FAN35CNO*	115V, 1ph, 50/60Hz 520/580m <sup>3</sup> h enclosure cooling fan	£94.60	Call	Call
FAN39BPO*	230V, 1ph, 50/60Hz 650/730m <sup>3</sup> h enclosure cooling fan	£138.00	Call	Call
FAN39CPO*	115V, 1ph, 50/60Hz 650/730m <sup>3</sup> h enclosure cooling fan	£152.00	Call	Call
FIL08XNO*	Exit grille for 08 fan	£10.77	Call	Call
FIL12XNO*	Exit grille for 12 fan	£12.35	Call	Call
FIL25XNO*	Exit grille for 23, 25 & 28 fans	£15.94	Call	Call
FIL35XNO*	Exit grille for 35 & 39 fans	£18.80	Call	Call
NCT	Red thermostat for heater control	£9.40	Call	Call
NOT	Blue thermostat for cooling fan control	£9.40	Call	Call

Prices shown exclude VAT & are subject to BPX standard terms & conditions of sale

**Leicester**  
Tel: 0116 233 9555  
Fax: 0116 233 9556

**Nottingham**  
Tel: 0115 970 4531  
Fax: 0115 942 2240

**Wakefield**  
Tel: 01924 241290  
Fax: 01924 241291

**Newcastle-u-Lyme**  
Tel: 01782 564400  
Fax: 01782 565500

**Welwyn**  
Tel: 0871 222 9155  
Fax: 0871 222 9166

