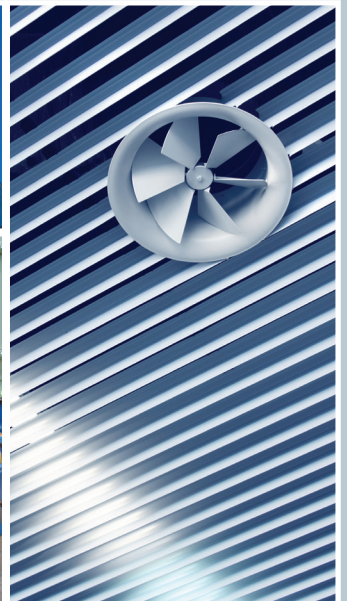


FRENIC-Ace-H

Saving energy in HVAC and water pumping applications

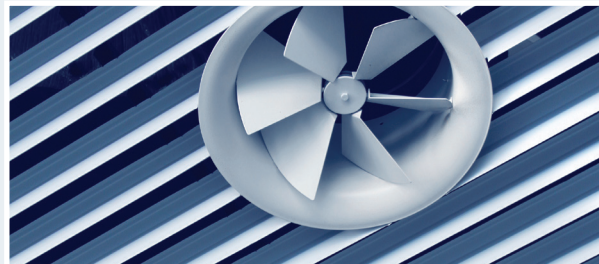


FRENIC-Ace-H

Power conservation and cost reductions through energy saving in HVAC and water pumping applications

Benefits

- **NEW: Quadruple Rating**
- **System Protection Functions**
 - Slow flow rate
 - Check valve protection
 - Initial acceleration time
 - Over pressure
 - PID alarms
 - Wire break detection
- **Water supply and drainage system function**
 - Dynamic torque vector control
 - Cascade control (up to 4)
 - PID control (2 PID)
 - Mutual operation (up to 4)
 - Floating method
 - Fire mode
 - Starting mode (Auto search)
 - Auto energy saving
 - Customizable logic, Mini PLC (200 steps)
 - Automatic deceleration
 - Password function
- **STO functional safety function as standard**
 - STO SIL 3, Cat 3, PL e
- **Built-in EMC filter**
 - Built-in category C2/C3 EMC filter
 - * All types are "E", except for 200 V >30 A: "S" type
- **PM synchronous motor drive**
 - PM motor drive is now possible with PM sensorless vector control.
- **Keypad built-in**
- **Multi-function keypad (option)**
 - Support for 19 languages + 1 customizable language



Options

Comprehensive communication support

Equipped with BACnet communication protocol as standard to facilitate the productization of a variety of control and communication options. Construction of system support is made easily with these functions.

Option cards:

- OPC-PDP3 (Profibus DP)
- OPC-DEV (DeviceNet)
- OPC-LNW (Lonworks)
- OPC-PRT (BACnet/IP, Ethernet/IP, Profinet RT)
- OPC-COP2 (CANopen)
- OPC-CCL (CC-Link)
- OPC-F2-RY (Relay output)
- OPC-AIO (Analog I/O expansion)
- OPC-DIO (Digital I/O expansion)
- OPC-PT (Thermistor PT100 input)

Standard support:

- RS485
- Modbus RTU
- BACnet MS/TP
- Metasys N2



Adaptors:

Item Code	Type	Mounting
OPC-E2-ADP1	0002 - 0044 (-4) 0001 - 0069 (-2) 0001 - 0011 (-7)	ADP1: The adapter is to be mounted on the front side of the inverter.
OPC-E2-ADP2	0059 - 0072 (-4) 0088 - 0115 (-2)	ADP2: The adapter is to be mounted inside of the inverter.
OPC-E2-ADP3	0085 - 0590 (-4)	ADP3: The adapter is to be mounted inside of the inverter.

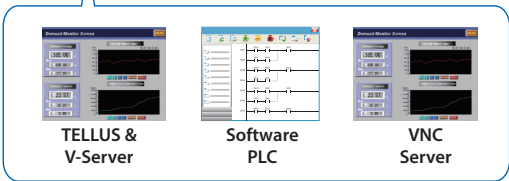
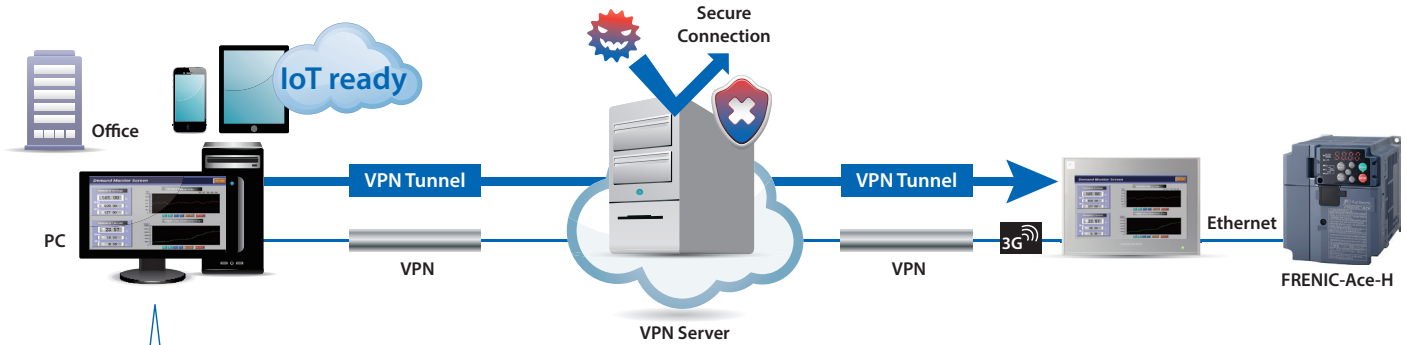
Operator Terminals

VPN remote connection

It is possible to control and monitor the application with the VPN function, integrated in the Monitouch V9.



Monitouch V9 series



TELLUS & V-Server

Software PLC

VNC Server

Multifunctional Keypad TP-A1-E2C



Multiple Languages

TP-A1-E2C supports 19 languages + 1 language customizable and programmable by the client.

Capacity Range

FRENIC-Ace-H

[kW]	3 ph 400 V series								3 ph 200 V series				1 ph 200 V series		
	ND rating		HD rating		HND rating		HHD rating		HND rating		HHD rating		HHD rating		
	Model	[A]	Model	[A]	Model	[A]	Model	[A]	Model	[A]	Model	[A]	Model	[A]	
0.1															
0.2															
0.4								FRN0002E2-4□H	1.5	FRN0002E2-2□H	2	FRN0004E2-2□H	3	FRN0003E2-7□H	3
0.75	FRN0002E2-4□H	2.1	FRN0002E2-4□H	1.8	FRN0002E2-4□H	1.8	FRN0004E2-4□H	2.5	FRN0004E2-2□H	3.5	FRN0006E2-2□H	5	FRN0005E2-7□H	5	
1.1			FRN0004E2-4□H	3.4	FRN0004E2-4□H	3.4									
1.5	FRN0004E2-4□H	4.1					FRN0006E2-4□H	4.2			FRN0010E2-2□H	8	FRN0008E2-7□H	8	
2.2	FRN0006E2-4□H	5.5	FRN0006E2-4□H	5	FRN0006E2-4□H	5	FRN0007E2-4□H	5.5	FRN0010E2-2□H	9.6	FRN0012E2-2□H	11	FRN0011E2-7□H	11	
3	FRN0007E2-4□H	6.9	FRN0007E2-4□H	6.3	FRN0007E2-4□H	6.3			FRN0012E2-2□H	12					
3.7							FRN0012E2-4□H	9			FRN0020E2-2□H	17.5			
5.5	FRN0012E2-4□H	12	FRN0012E2-4□H	11.1	FRN0012E2-4□H	11.1	FRN0022E2-4□H	13	FRN0020E2-2□H	19.6	FRN0030E2S-2□H	25			
7.5			FRN0022E2-4□H	17.5	FRN0022E2-4□H	17.5	FRN0029E2-4□H	18	FRN0030E2S-2□H	30	FRN0040E2S-2□H	33			
11	FRN0022E2-4□H	21.5	FRN0029E2-4□H	23	FRN0029E2-4□H	23	FRN0037E2-4□H	24	FRN0040E2S-2□H	40	FRN0056E2S-2□H	47			
15	FRN0029E2-4□H	28.5	FRN0037E2-4□H	31	FRN0037E2-4□H	31	FRN0044E2-4□H	30	FRN0056E2S-2□H	56	FRN0069E2S-2□H	60			
18.5	FRN0037E2-4□H	37	FRN0044E2-4□H	38	FRN0044E2-4□H	38	FRN0059E2-4□H	39	FRN0069E2S-2□H	69	FRN0088E2S-2□H	76			
22	FRN0044E2-4□H	44	FRN0059E2-4□H	45	FRN0059E2-4□H	45	FRN0072E2-4□H	45	FRN0088E2S-2□H	88	FRN0115E2S-2□H	90			
30	FRN0059E2-4□H	59	FRN0072E2-4□H	60	FRN0072E2-4□H	60	FRN0085E2-4□H	60	FRN0115E2S-2□H	115					
37	FRN0072E2-4□H	72	FRN0085E2-4□H	75	FRN0085E2-4□H	75	FRN0105E2-4□H	75							
45	FRN0085E2-4□H	85	FRN0105E2-4□H	91	FRN0105E2-4□H	91	FRN0139E2-4□H	91							
55	FRN0105E2-4□H	105	FRN0139E2-4□H	112	FRN0139E2-4□H	112	FRN0168E2-4□H	112							
75	FRN0139E2-4□H	139	FRN0168E2-4□H	150	FRN0168E2-4□H	150	FRN0203E2-4□H	150							
90	FRN0168E2-4□H	168	FRN0203E2-4□H	176	FRN0203E2-4□H	176	FRN0240E2-4□H	176							
110	FRN0203E2-4□H	203	FRN0240E2-4□H	210	FRN0240E2-4□H	210	FRN0290E2-4□H	210							
132	FRN0240E2-4□H	240	FRN0290E2-4□H	253	FRN0290E2-4□H	253	FRN0361E2-4□H	253							
160	FRN0290E2-4□H	290	FRN0361E2-4□H	304	FRN0361E2-4□H	304	FRN0415E2-4□H	304							
200	FRN0361E2-4□H	361	FRN0415E2-4□H	377	FRN0415E2-4□H	377	FRN0520E2-4□H	377							
220	FRN0415E2-4□H	415	FRN0520E2-4□H	415	FRN0520E2-4□H	415	FRN0590E2-4□H	415							
250			FRN0590E2-4□H	477											
280	FRN0520E2-4□H	520			FRN0590E2-4□H	520									
315	FRN0590E2-4□H	590													
Overload current rating	120% -1 min		150% -1 min		120% -1 min		150% -1 min 200% -0.5 sec		120% -1 min		150% -1 min 200% -0.5 sec		150% -1 min 200% -0.5 sec		
Max. ambient temp. w/o derating	40°C		40°C		50°C		50°C		50°C		50°C		50°C		

■: E (built-in EMC filter) / S (without EMC filter)
□: GA (Global version with terminal block) / GB (Global version w/o terminal block) / E (European version)

3 ph 400 V series				
Model	Image No.	W [mm]	H [mm]	D [mm]
FRN0002E2-4□H	B	110	130	162
FRN0004E2-4□H				186
FRN0006E2-4□H	C	140	130	199
FRN0007E2-4□H				
FRN0012E2-4□H				
FRN0022E2-4□H	D	181.5	285	213
FRN0029E2-4□H				
FRN0037E2-4□H	E	220	322	245
FRN0044E2-4□H				
FRN0059E2-4□H		250	400	195
FRN0072E2-4□H				
FRN0085E2-4□H	F	326.2	550	261
FRN0105E2-4□H				
FRN0139E2-4□H		361.2	615	276
FRN0168E2-4□H				
FRN0203E2-4□H		740	321	
FRN0240E2-4□H				
FRN0290E2-4□H		536.4	1000	366
FRN0361E2-4□H				
FRN0415E2-4□H				
FRN0520E2-4□H				
FRN0590E2-4□H				

3 ph 200 V series				
Model	Image No.	W [mm]	H [mm]	D [mm]
FRN0001E2-2□H	A	68	127	112
FRN0002E2-2□H				127
FRN0004E2-2□H				152
FRN0006E2-2□H	C	140	130	199
FRN0010E2-2□H				
FRN0012E2-2□H				
FRN0020E2-2□H	D	180	220	158
FRN0030E2S-2□H				
FRN0040E2S-2□H				
FRN0056E2S-2□H	E	220	260	190
FRN0069E2S-2□H				
FRN0088E2S-2□H		250	400	195
FRN0115E2S-2□H				

1 ph 200 V series				
Model	Image No.	W [mm]	H [mm]	D [mm]
FRN0001E2-7□H	A	68	127	112
FRN0002E2-7□H				127
FRN0003E2-7□H	B	110	130	129
FRN0005E2-7□H				
FRN0008E2-7□H	C	140	130	199
FRN0011E2-7□H				

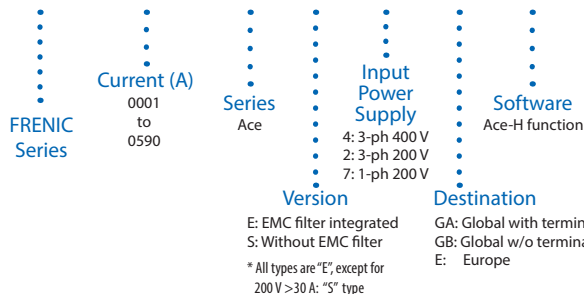
■: E (built-in EMC filter) / S (without EMC filter)
 □: GA (Global version with terminal block) GB (Global version w/o terminal block) / E (European version)

Images



Type Code

FRN 0012 E2 E -4 GA H



Headquarters Europe

Fuji Electric Europe GmbH
 Goethering 58
 63067 Offenbach am Main
 Germany

info.inverter@fujielectric-europe.com
 www.fujielectric-europe.com

