

QUIX

2006

AC inverter_General purpose



...life is flexibility.

English_Español



...life is flexibility ...life is QUIX

- The QUIX series brings together in a single product all the features required in modern industrial processes, to satisfy the demands of OEM and System integrators who require advanced and practical technical solutions. The series is particularly advantageous in terms of space and cost.
- Versatile and reliable, the QUIX inverter offers the benefits of the most recent technology, guaranteeing high dynamic performance and excellent regulation accuracy, in all control situations where small a.c. motor powers are normally used. A very simple and intuitive programming module, allows for fast motor start-up or regulation of complex control, thanks to a simplified menu structure and to the PC configurator "E@sy Drives", supplied as standard with the drive.
- Compact and functional, the QUIX has been engineered and built in order to realise in a flexible and efficient way all the different application requirements in the field of automation, integrating advanced functions and system configuration solutions, which before were only possible through external options.



- Las series QUIX reúnen en un solo producto todas las características esenciales necesarias en los modernos procesos industriales para satisfacer las peticiones de los OEM y de los integradores de sistemas que necesitan de soluciones técnicas prácticas y avanzadas. Esta serie resulta particularmente ventajosa en términos de espacio y coste.
- Versátil y fiable, el inverter QUIX aporta las ventajas de la más reciente tecnología, garantizando unas elevadas prestaciones dinámicas así como una excelente precisión de regulación, en todo tipo de situaciones de control en las que suelen utilizarse pequeños motores de CA.
- Una estructura de programación simple, garantiza un "arranque" rápido del motor o una regulación de sistemas más complejos, simplemente utilizando el teclado estándar o la herramienta para PC E@sy Drives.©.
- Compacto y funcional, el QUIX se ha diseñado y desarrollado para incluir, en una estructura flexible y eficaz, todas las necesidades de las distintas aplicaciones del campo de la automatización, integrando funciones avanzadas y soluciones de configuración del sistema, que antes sólo eran posibles a través de opciones externas.

Flexible and functional

- Supply: 3 x 400V...480V 50/60Hz
- Motor powers from 0.37kW (0.5Hp) up to 5.5kW (7,5Hp)
- Output frequency 500Hz
- Integrated braking module
- Speed feedback with closed loop through encoder (option)
- Digital I/O logic control in PNP and/or NPN configuration
- 2 Differential analog inputs $\pm 10V$ (or current)
- 2 Analog outputs (voltage or current)
- 5 Digital inputs
- 2 Digital outputs (1 static and 1 relays)
- Overload up to 200% in accordance with IEC146-1-1 Class 1 and Class 2
- Integrated programming keypad
- RS485 Serial line (Modbus protocol)
- Interfacing with fieldbus protocol as:
ProfiBus – CANopen – DeviceNet
- Integrated CANopen/DeviceNet version
- Flat dissipation plate version
- Protection degree IP20
(option IP54 for external heatsink mounting)

Small and simple but powerful

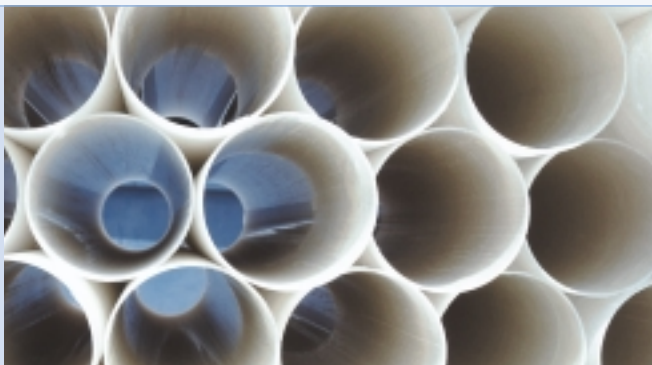
- Motor parameters self tuning
- Programmable and predefined V/f curves
- 4 Independent programmable ramps
- 16 Programmable multispeed
- “Autocapture” function (Pick up)
- Mains loss detection with controlled stop
- Programmable autorestart
- PID Application block
- Energy saving function
- Critical frequencies rejection
- Motor thermal protection
- Virtual and remoter I/O standard management

Flexible y funcional

- Alimentación: 3 x 400 V...480 V 50/60 Hz
- Potencias de motor desde 0,37 kW (0,5 Hp) hasta 5,5kW (7,5 Hp)
- Frecuencia de salida 500 Hz
- Módulo de frenado integrado
- Retroalimentación de velocidad con bucle cerrado a través del encoder
- Control lógico de E/S digital en configuraciones PNP y/o NPN
- 2 entradas analógicas diferenciales de $\pm 10 V$ (o intensidad)
- 2 salidas analógicas (voltaje o intensidad)
- 5 entradas digitales
- 2 salidas digitales (1 estática y 1 relé)
- Sobrecarga de hasta el 200% de acuerdo con IEC146-1-1 Clase 1 y Clase 2
- Teclado de programación integrado
- Línea serie RS485 (protocolo Modbus RTU)
- Interface con protocolo fieldbus como: ProfiBus (Profidrive) –CANopen – DeviceNet
- Versión CANopen/DeviceNet integrada
- Versión con placa de disipación plana
- Grado de protección IP20 (IP54 opcional para montaje en radiador externo)

Pequeño y simple pero potente

- Auto ajuste de los parámetros del motor
- Curvas V/f programables y predefinidas
- 4 rampas programables independientes
- 16 multivelocidades programables
- Función “Autocapture” (Recuperación)
- Detección de pérdida de red con parada controlada
- Reinicio automático programable
- Bloque de aplicación PID
- Función de ahorro de energía
- Rechazo de frecuencias críticas
- Protección térmica del motor
- Gestión estándar de E/S virtual y remota



Standard Configuration

“QUIX Standard” Series

- Supply 3ph 400V –15%... 480V +10% 50/60Hz ±5%
- Motor powers from 0.37kW up to 5.5kW
- Standard version with default setting for supply 400V – 50Hz

“QUIX American” Series

- Supply 3ph 400V –15%... 480V +10% 50/60Hz ±5%
- Motor powers from 0.5Hp up to 7,5Hp
- “American Version” with default setting for supply 460V – 60Hz

Para Configuración Estándar

Serie “QUIX Standard”

- Alimentación trifásica 400 V –15%... 480 V +10% 50/60 Hz ±5%
- Potencias de motor desde 0,37 kW hasta 5,5kW
- Versión estándar con el ajuste por defecto para alimentación de 400 V – 50 Hz

Serie “QUIX American”

- Alimentación trifásica 400 V –15%... 480 V +10% 50/60 Hz ±5%
- Potenze motore da 0,5Hp a 7,5Hp
- “Versión americana” con el ajuste por defecto para alimentación de 460 V – 60 Hz

Inverter Model	Standard American	1004 1F50	1005 1F75	1007 11P0	2015 21P5	2022 22P0	2030 23P0	2040 25P0	2055 2P75
Inverter Output (IEC 146 class1), Continuous service	[kVA]	0.85	1.14	1.48	2.82	3.96	5.20	7.00	9.01
Inverter Output (IEC 146 class2), 150% overload for 60s	[kVA]	0.776	1.04	1.35	2.57	3.60	4.71	6.36	8.20
P_N mot (recommended motor output):									
@ $U_{LN}=3x400V_{ac}$; f_{SW} =default; IEC 146 class 1	[kW]	0.37	0.55	0.75	1.5	2.2	3	4	5.5
@ $U_{LN}=3x400V_{ac}$; f_{SW} =default; IEC 146 class 2	[kW]	0.37	0.55	0.75	1.5	2.2	3	4	5.5
@ $U_{LN}=3x480V_{ac}$; IEC 146 class 1	[Hp]	0.5	0.75	1	2	3	4	5	7.5
@ $U_{LN}=3x480V_{ac}$; IEC 146 class 2	[Hp]	0.5	0.75	1	1.5	2	4	5	7.5
U_2 Max output voltage	[V]	0,94 x U_{LN} (AC Input voltage)							
f_2 Max output frequency (*)	[Hz]	500							
I_{2N} Rated output current :									
@ $U_{LN}=3x400V_{ac}$; f_{SW} =default; IEC 146 class 1	[A]	1.23	1.65	2.14	4.10	5.71	7.50	10.1	13
@ $U_{LN}=3x400V_{ac}$; f_{SW} =default; IEC 146 class 2	[A]	1.12	1.50	1.95	3.70	5.20	6.80	9.20	11.8
@ $U_{LN}=3x480V_{ac}$; f_{SW} =default; IEC 146 class 1	[A]	1.10	1.50	1.92	3.50	4.90	6.50	8.30	11.0
@ $U_{LN}=3x480V_{ac}$; f_{SW} =default; IEC 146 class 2	[A]	1.00	1.40	1.80	3.20	4.40	5.90	7.60	10.0
f_{SW} switching frequency (Default)	[kHz]	10							
f_{SW} switching frequency (Higher)	[kHz]	16							
I_{ovld} (short term overload current, 200% of I_{2N} for 0,5s on 60s)	[A]	2.2	3.0	3.9	7.4	10.4	13.6	18.4	21.6
Derating factor:									
Kt for ambient temperature		0.8 @ 50° C (122° F)							
Kf for switching frequency		0.7 for higher f_{SW} / 0.9 only for size 1007 (17F5)							
U_{LN} AC Input voltage	[V]	400 V –15% ... 480 V +10%, 3Ph							
AC Input frequency	[Hz]	50/60 Hz ±5%							
I_N AC Input current for continuous service:									
– Connection with 3-phase reactor									
@ 3x400Vac; IEC 146 class1	[A]	1.30	1.64	2.10	4	5.60	7.11	9.61	10.8
@ 3x480Vac; IEC 146 class1	[A]	1.08	1.28	1.95	3.62	5.03	6.47	8.76	9.1
– Connection without 3-phase reactor									
@ 3x400Vac; IEC 146 class1	[A]	2.05	2.61	3.41	5.92	8.10	10.2	13.0	16.9
@ 3x480Vac; IEC 146 class1	[A]	1.67	2	3.1	5.33	7.17	9.11	11.9	14.5
Max short circuit power without line reactor (Zmin=1%)	[kVA]	85	115	160	270	380	500	650	850
Overvoltage threshold	[V]	800 V_{DC}							
Undervoltage threshold	[V]	380 V_{DC} (for 400V _{AC}), 415 V_{DC} for (480 V _{AC})							
Braking IGBT Unit (standard drive)		Standard internal (with external resistor); Braking torque 150%							
Dimensions width x length x depth	mm	70 x 204 x 151						130 x 221 x 175.5	
	(inches)	(2.76 x 8.03 x 5.94)						(5.12 x 8.70 x 6.95)	
Weight	Kg (lbs)	1.31 (2.89)						3.05 (6.72)	
Weight (with filter)	Kg (lbs)	1.38 (3.00)							

Environmental Condition

Enclosures	IP20 (NEMA type 1 option)
Ambient temperature	0...40°C, +40°C... +50°C with derating
Altitude	2.000 m max (up to 1000 m without current limitation)

Normative and marks

CE	in compliance with CEE directives, for low voltage devices.
UL & cUL	in compliance with American and Canadian market directives.
EMC	in compliance with CEE - EN 61800 - 3:2004 electromagnetic compatibility directive, using optional filters.

Condiciones ambientales

Cajas	IP20 (tipo NEMA 1 opcional)
Temperatura ambiente	0...40°C, +40°C... +50°C con derating
Altitud	2.000 m max (hasta 1.000 m sin límite de intensidad)

Normativa y marcas

CE	de acuerdo con las directivas CEE, para dispositivos de bajo voltaje.
UL y cUL	de acuerdo con las directivas de mercado Norte Americanas y Canadienses.
EMC	de acuerdo con las directivas de compatibilidad electromagnética CEE - EN 61800 - 3:2004, utilizando filtros opcionales.

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