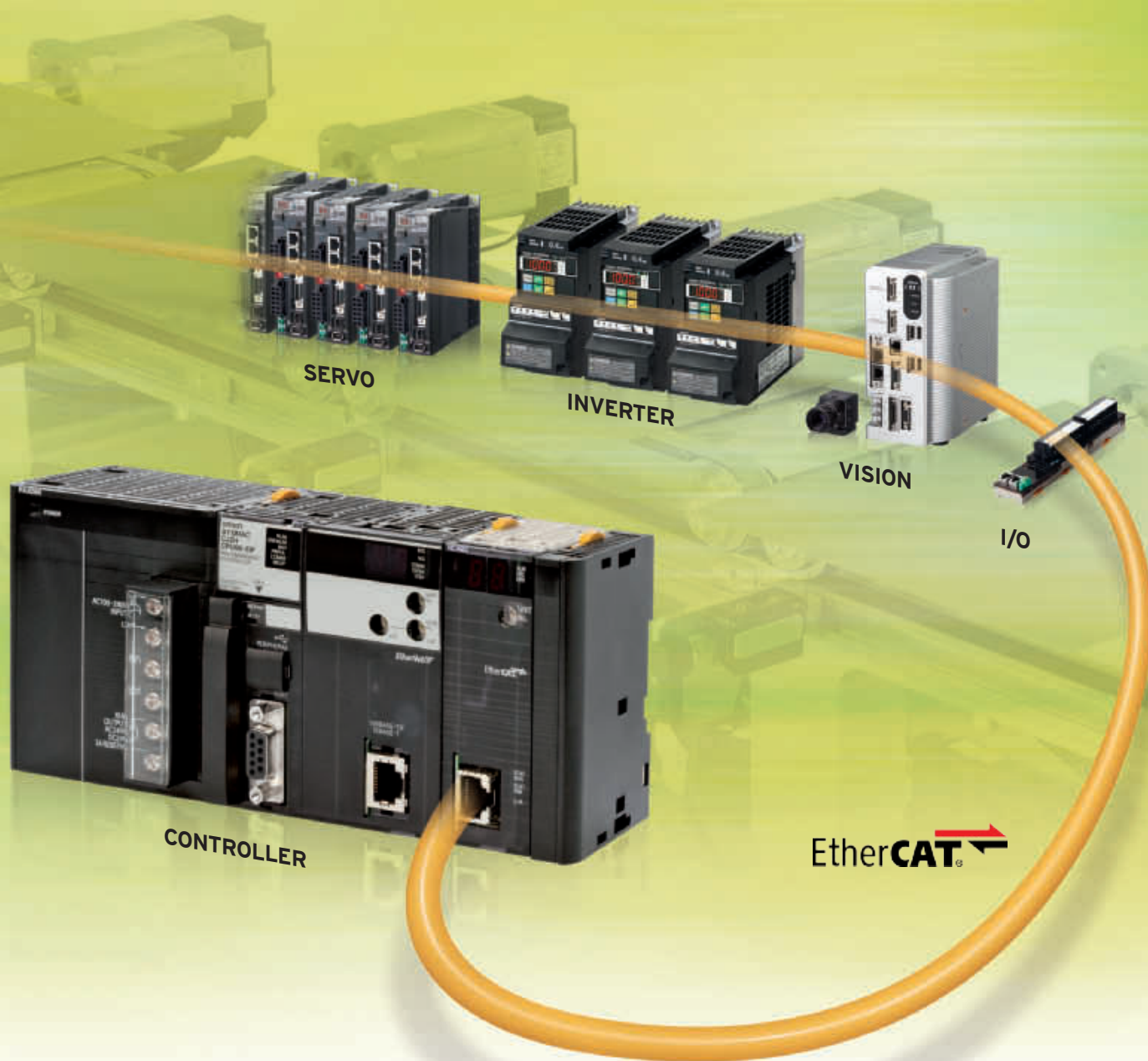


One Machine Network

Machine Automation Solutions



One Network...

Proven solutions now available with EtherCAT

Building on the accepted quality, performance and features of our automation solutions, you can now add the benefits of linking them under one single machine network. Far from compromising the machine throughput, EtherCAT as a Machine network increases the speed and the synchronisation accuracy.

Flexible control modes

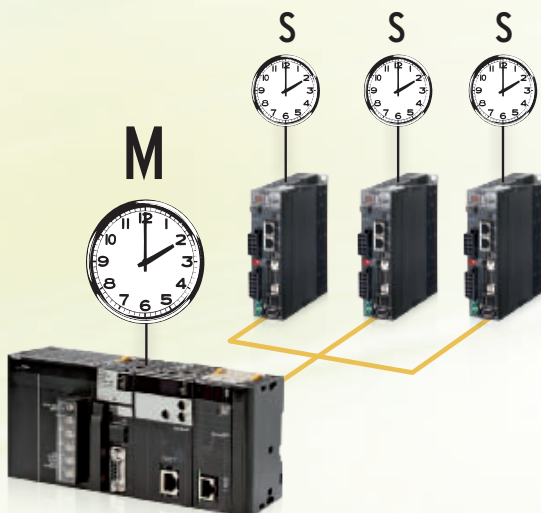
- » Cyclic synchronous Position (CSP), Velocity (CSV) and Torque (CST) modes in the servo ensure the EtherCAT master has complete control of the multi-axes system
- » Homing modes and Profile Position mode inside the servo slave, enable the possibility to use it with EtherCAT masters without motion functionality

Ethernet based

- » No need for dedicated cables. EtherCAT uses Standard Ethernet cable (CAT-5 or above)
- » Up to 100 metres distance between nodes
- » No need for network switches

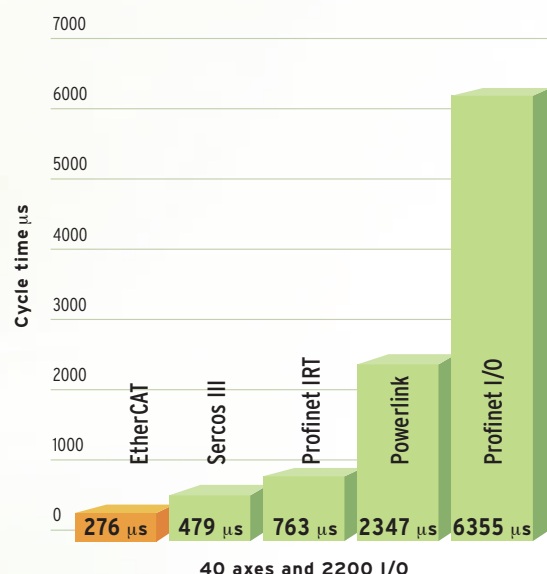
Distributed clock synchronisation

- » With the distributed clock system, all servos in an EtherCAT application can be synchronised within a microsecond tolerance



Ethernet optimised for machine control

- » EtherCAT is an Ethernet based network optimised for machine control with unrivalled performance
- » The diagram below shows the cycle time of several Ethernet based networks under the same test conditions



Note: Refer to www.ethercat.org for complete test details

Controller



CJ2 PLC

- Compatible with CJ1 and CJ2 PLCs
- Control of 16 servo axes
- Support for 64 device nodes
- Circular and linear interpolation
- Linear and infinite axes management
- Position registration capture
- Certified PLC open function blocks

Page 6



Trajexia

- Control of 64 servo axes
- Scalable Motion controller system
- Electronic cams and gears
- Linear, circular, helical and spherical interpolation
- Open communication to PLCs, EtherNet/IP, PROFIBUS, DeviceNet

Page 8

Servos



Accurax G5

- High-response frequency of 2 kHz
- Safety conforming to ISO13849-1
- High accuracy provided by 20 bit encoder
- Advanced tuning algorithms



- Rotary Motors from 50 W up to 15 kW



- Linear motor solutions

Page 10

Inverters



MX2

- 200% starting torque
- Torque control in open loop
- Support for permanent magnet motors
- Positioning functionality
- Up to 15 kW

Page 12

Vision



Xpectia FZM1

- Stable measurements under changing conditions
- Wide variety of positioning measurement methods
- Simple auto calibration
- Flexible camera installation

Page 14

I/O



GX Series

- Simple setup
- Easy wiring
- High-speed input

Page 16



SmartSlice for Trajexia

- Up to 64 I/O units per station
- Screwless wiring
- Hot-swap with auto-restore

Page 17

...for Machine Automation Solutions

With over 50,000 buying machine builders world-wide - 10,000 in Europe - and 50 years experience in machine automation, we particularly pride ourselves in helping these companies turn their dreams into reality... world class machines. Because when we say it works, IT WORKS!

This statement embodies our core values of supporting you with competent and experienced people, quality products that work in conditions far beyond their published specifications and always maintaining our commitment to you the customer.

We are successful because we provide solutions based on our customers needs, whether that solution is used in a fixed form or a highly flexible machine.

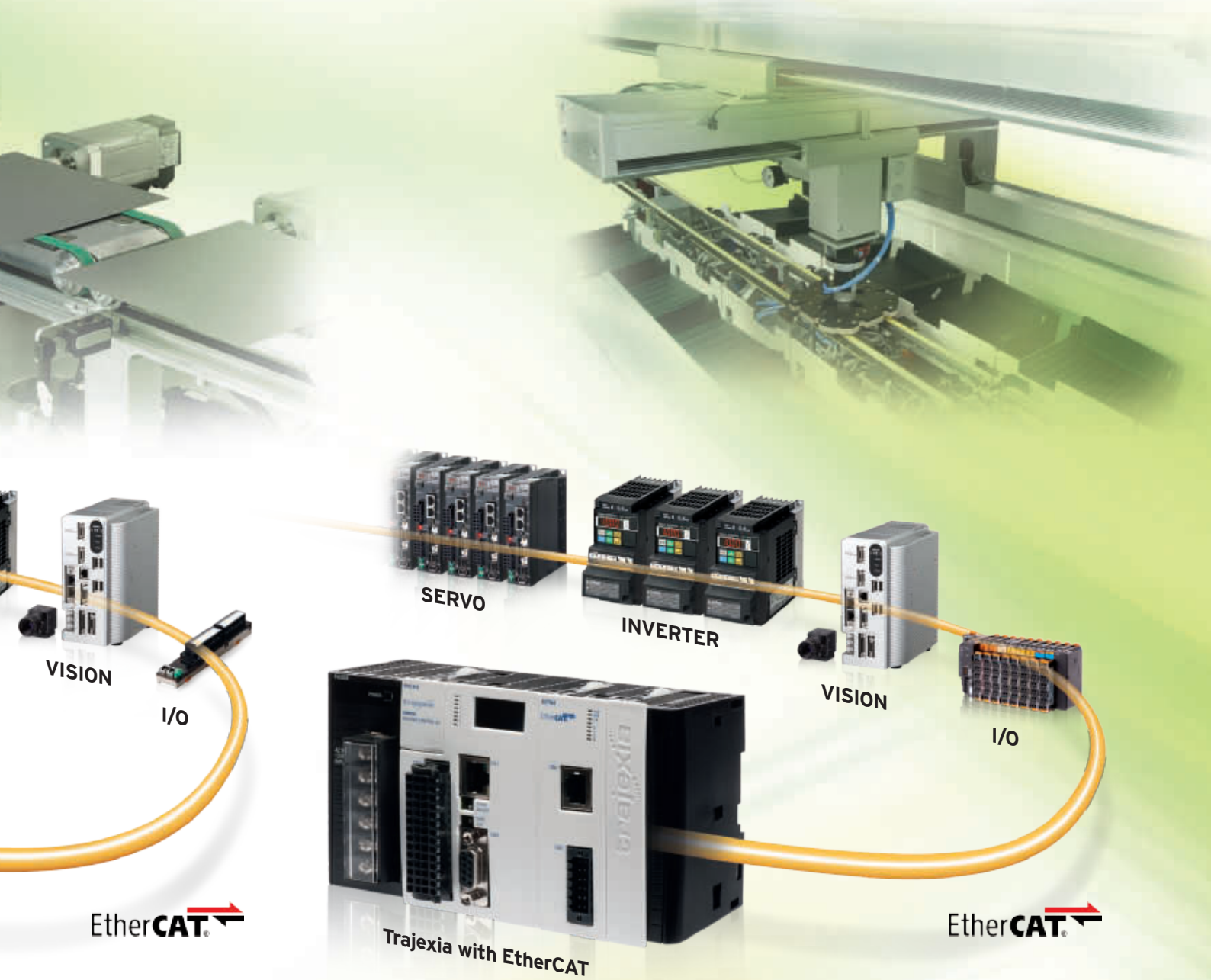
We believe this is a solid basis to start turning YOUR IDEAS into MACHINES THAT WORK.



Complete and compact machine controller

Logic and motion control integrated in the CJ PLC platform. Control of 16 axes; positioning with linear and circular interpolation

- Scalable and modular solution
- Simplified programming
- Precise motion functionality made simple
- One Machine network



Total freedom in motion control

Flexible and dedicated motion controller. Control of up to 64 axes with advanced motion functions including registration, cams and gearing

- Stand-alone and scalable motion controller
- Powerful motion control
- Intuitive and powerful engineering
- One Machine network

CJ2 PLC with EtherCAT

Complete and compact machine controller

In the minimum of space you can have a complete and powerful position control system when combining the Omron CJ2 PLC, the CJ1W-NC(EtherCAT) unit and the G5 servo drives with EtherCAT built-in. This configuration offers up to 16-axis positioning with linear and circular interpolation, as well as support for 64 I/O, inverter and vision device nodes over the network.

Scalable and modular solution

- CJ1 and CJ2 family CPUs available
- EtherCAT masters for 2, 4, 8 and 16 axes
- Wide range of CJ PLC modules

One Machine network

- Servo
- Inverter
- Vision system
- Distributed I/O



CJ2 PLC with EtherCAT

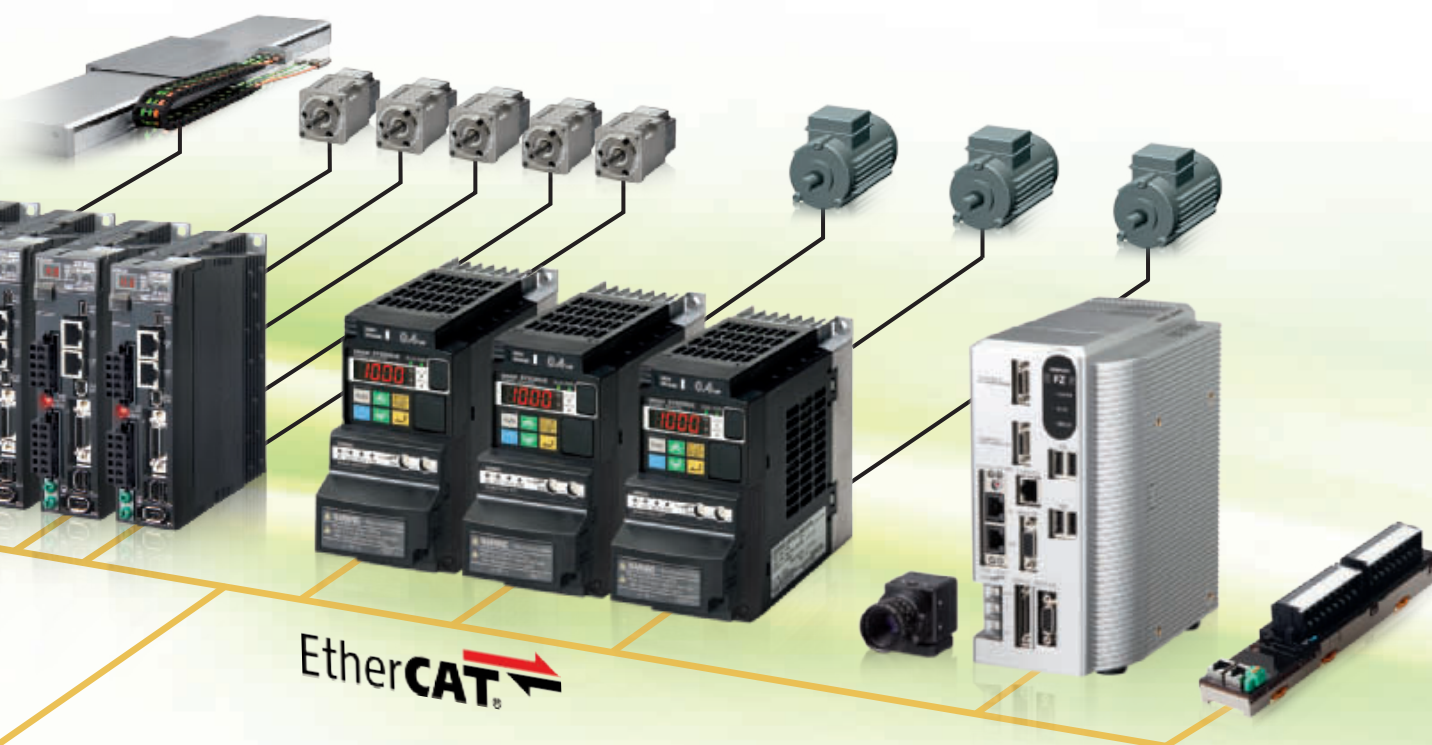


Simplified programming

- Complete machine control from CJ PLC program
- PLCopen motion function blocks

Precise motion functionality made simple

- Position control of up to 16 axes
- Circular and linear interpolation
- Position registration capture



CJ EtherCAT unit features

- Position controller supporting up to 16 servo axes
- Support for 64 I/O, inverter and vision device nodes
- Compact unit compatible with CJ1 and CJ2 PLCs
- Circular and linear interpolation
- Linear and infinite axes management
- Position registration capture
- Zone outputs (CAM outputs)
- Certified PCLopen motion control function blocks: Part 1 and 2
- Support for servo, inverter, vision system and I/O in a single EtherCAT network

Reference list

PLC CPU item description

CJ2M CPUs
 CJ2H CPUs (Support for CST and CSV from v1.4)
 Power supply for CJ PLC system, 100-240 VAC
 Power supply for CJ PLC system, 24 VDC

Item Model

CJ2M-CPU_
 CJ2H-CPU_
 CJ1W-PA20_
 CJ1W-PD02_

CJ EtherCAT Master unit description

Position controller unit - EtherCAT Master - 4 axes + 64 nodes (Support for CST and CSV from v1.3)
 Position controller unit - EtherCAT Master - 8 axes + 64 nodes (Support for CST and CSV from v1.3)
 Position controller unit - EtherCAT Master - 16 axes + 64 nodes (Support for CST and CSV from v1.3)
 Position controller unit - EtherCAT Master - 2 axes
 Position controller unit - EtherCAT Master - 4 axes
 Position controller unit - EtherCAT Master - 8 axes
 Position controller unit - EtherCAT Master - 16 axes

Item Model

CJ1W-NC482
 CJ1W-NC882
 CJ1W-NCF82
 CJ1W-NC281
 CJ1W-NC481
 CJ1W-NC881
 CJ1W-NCF81

PLC I/O units description

Refer to Industrial Automation Guide on Omron website for details of available CJ1 I/O units

Item Model

CJ1W_

Trajexia with EtherCAT

Total freedom in motion control

The stand-alone Trajexia controller TJ2-MC64 together with an EtherCAT master TJ2-ECT provides a significant improvement in machine performance and accuracy allowing you to run your machines faster. Controlling all 64 axes with a minimum system cycle time and with the use of 64 bit integers, Trajexia TJ2 ensures the fastest operation at the highest accuracy. It is ideal for highly-demanding packaging, printing and textile machines. As you would expect, a wide choice of best-in-class actuators are available to meet your needs in terms of size, performance and reliability.



Powerful motion control

- Single axis moves and axes interpolation
 - Electronic cams and gearboxes
- Control of SCARA and Delta robots

One Machine network

- Servo
- Inverter
- Vision system
- Distributed I/O



Trajexia with EtherCAT

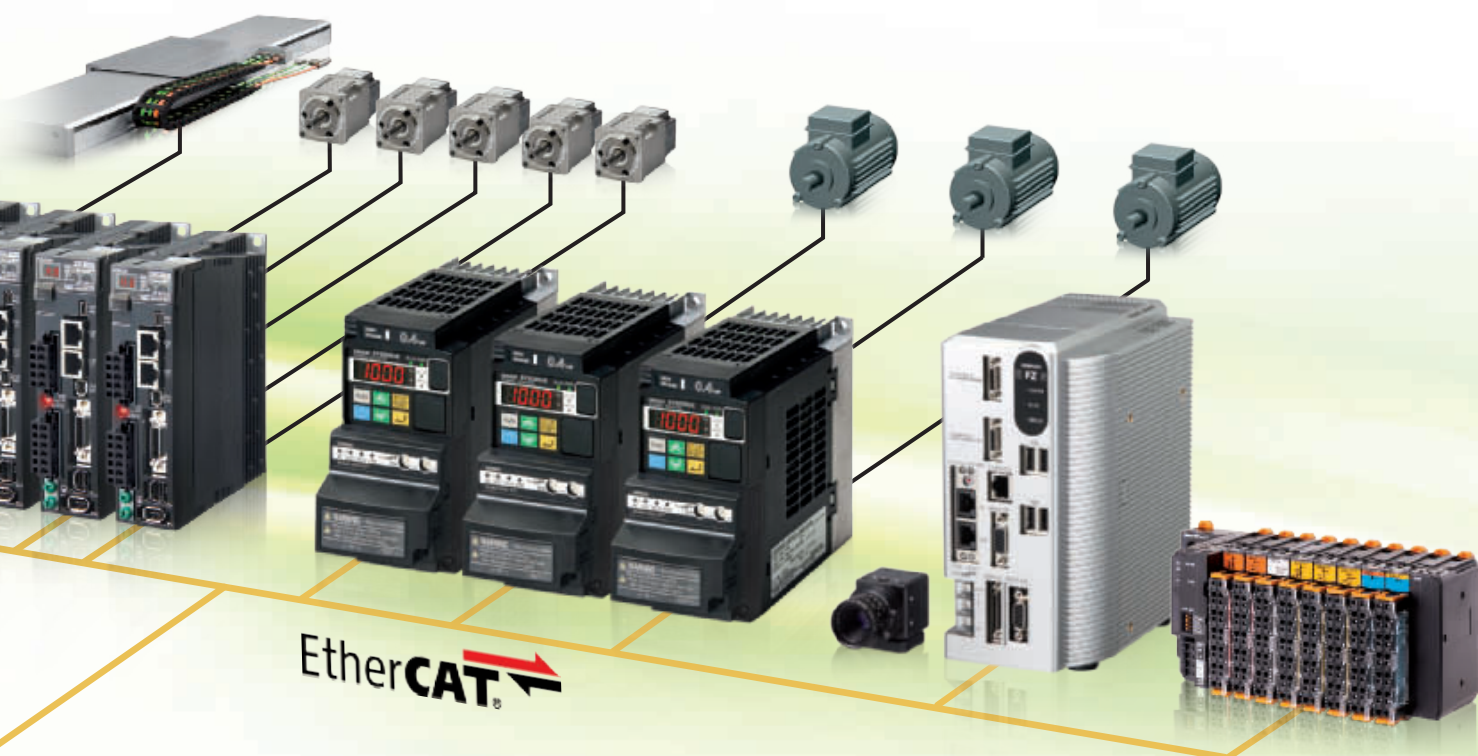
Intuitive and powerful programming

- Motion BASIC programming
- Dedicated motion commands

trajexia
you decide

Stand-alone and Scalable motion controller

- Freedom to choose the machine PLC
- Scalability with EtherCAT masters for 4, 16 and 64 axes



Trajexia with EtherCAT features

- Perfect control of 64 axes
- Scalability provided by the 3 versions of EtherCAT masters; 4, 16 and 64 axes
- Each axis can be programmed using linear, circular, helical or spherical interpolation, electronic cams and gearboxes.
- Control of SCARA and Delta robots
- Multi-tasking controller capable of running up to 22 tasks simultaneously
- Open communication - Serial and EtherNet/IP built-in, PROFIBUS-DP, DeviceNet and CANopen options
- Reuse of engineering code, compatible programming with existing Stand-alone and PLC based Trajexia CPUs
- Support for servo, inverter, vision system and I/O in a single EtherCAT network

Reference list

Trajexia controller items description	Item Model
Trajexia motion controller Unit, up to 64 axes	TJ2-MC64
Power supply for Trajexia system, 100-240 VAC	CJ1W-PA202
Power supply for Trajexia system, 24 VDC	CJ1W-PD022
EtherCAT master description	Item Model
Trajexia EtherCAT master unit (up to 4 servo drives)	TJ2-ECT04
Trajexia EtherCAT master unit (up to 16 servo drives)	TJ2-ECT16
Trajexia EtherCAT master unit (up to 64 servo drives)	TJ2-ECT64
Optional units description	Item Model
Trajexia flexible axis unit (for 2 stations)	TJ1-FL02
Trajexia DeviceNet slave unit	TJ1-DRT
Trajexia PROFIBUS-DP slave unit	TJ1-PRT
Trajexia CANopen unit	TJ1-CORT

Accurax G5 servo system

At the heart of every great machine

Great machines are born from a perfect match between electronics and mechanics. Accurax G5 gives you that extra edge to build more accurate, faster, smaller and safer machines. You will benefit from an almost 25% reduction in motor weight, and gain 50% cabinet space.



EtherCAT connectivity

- Compliant with CoE -CiA402 Drive Profile-
- Cyclic synchronous Position, Velocity and Torque modes
- Embedded Gear Ratio, Homing and Profile Position mode
- Distributed clock to ensure high precision synchronisation

Improved rotary motors

- Low cogging torque servo motors
- High accuracy provided by 20 bit encoder
- IP67 for all motors and connectors
- Large range of motors from 0.16 Nm up to 96 Nm nominal torque (224 Nm peak)



Improved linear motor solutions

- Ironless motor type with excellent force-to-weight ratio and no magnetic attraction force
- Iron-core motor type with optimum ratio between force and volume
- Compact and efficient design
- Linear parts and assembled linear systems available
- For customised linear systems contact your Omron sales representative

Up to 50% cabinet size reduction

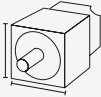
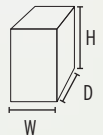
- 40% smaller drive
- Extra 10% saving thanks to side by side mounting



G5 Features

- Compact size servo drives with EtherCAT connectivity built-in
- High-response frequency of 2 kHz
- Load vibration suppression
- Embedded safety conforming to ISO13849-1 Performance Level D
- Advanced tuning algorithms (Anti-vibration function, torque feedforward, disturbance observer)
- Wide range of linear and rotary servo motors

Rotary motors reference list

Rotary servo motor specifications						Servo drive specifications					
Speed (rpm)	Voltage	Flange (mm)	Rated Torque	Capacity	Motor Model	Drive Model	W	D	H		
3000	230 V	40x40	0.16 Nm	50 W	R88M-K05030(H/T)-(B)S2	R88D-KN01H-ECT	40	132	150		
			0.32 Nm	100 W	R88M-K10030(H/T)-(B)S2	R88D-KN01H-ECT					
		60x60	0.64 Nm	200 W	R88M-K20030(H/T)-(B)S2	R88D-KN02H-ECT	55	172			
			1.3 Nm	400 W	R88M-K40030(H/T)-(B)S2	R88D-KN04H-ECT					
		80x80	2.4 Nm	750 W	R88M-K75030(H/T)-(B)S2	R88D-KN08H-ECT	65				
			3.18 Nm	1 kW	R88M-K1K030(H/T)-(B)S2	R88D-KN15H-ECT					
		100x100	4.77 Nm	1.5 kW	R88M-K1K530(H/T)-(B)S2	R88D-KN15H-ECT	86				
		400 V	100x100		2.39 Nm	750 W	R88M-K75030(F/C)-(B)S2	R88D-KN10F-ECT	92	172	150
					3.18 Nm	1 kW	R88M-K1K030(F/C)-(B)S2	R88D-KN15F-ECT			
					4.77 Nm	1.5 kW	R88M-K1K530(F/C)-(B)S2	R88D-KN15F-ECT	94	195	198
					6.37 Nm	2 kW	R88M-K2K030(F/C)-(B)S2	R88D-KN20F-ECT			
	120x120			9.55 Nm	3 kW	R88M-K3K030(F/C)-(B)S2	R88D-KN30F-ECT	130	213	250	
				12.7 Nm	4 kW	R88M-K4K030(F/C)-(B)S2	R88D-KN50F-ECT				
	130x130		15.9 Nm	5 kW	R88M-K5K030(F/C)-(B)S2	R88D-KN50F-ECT					
	2000		230 V	130x130	4.77 Nm	1 kW	R88M-K1K020(H/T)-(B)S2	R88D-KN10H-ECT	86	172	150
					7.16 Nm	1.5 kW	R88M-K1K520(H/T)-(B)S2	R88D-KN15H-ECT			
			400 V	100x100	1.91 Nm	400 W	R88M-K40020(F/C)-(B)S2	R88D-KN06F-ECT	92	172	150
					2.86 Nm	600 W	R88M-K60020(F/C)-(B)S2	R88D-KN06F-ECT			
		130x130		4.77 Nm	1 kW	R88M-K1K020(F/C)-(B)S2	R88D-KN10F-ECT	94	195	198	
				7.16 Nm	1.5 kW	R88M-K1K520(F/C)-(B)S2	R88D-KN15F-ECT				
				9.55 Nm	2 kW	R88M-K2K020(F/C)-(B)S2	R88D-KN20F-ECT				
				14.3 Nm	3 kW	R88M-K3K020(F/C)-(B)S2	R88D-KN30F-ECT				
176x176		19.1 Nm	4 kW	R88M-K4K020(F/C)-(B)S2	R88D-KN50F-ECT	130	213	250			
		23.9 Nm	5 kW	R88M-K5K020(F/C)-(B)S2	R88D-KN50F-ECT						
1500		400 V	176x176 220x220	47.8 Nm	7.5 kW	R88M-K7K515C-(B)S2	R88D-KN75F-ECT	233	334	250	
				70.0 Nm	11 kW	R88M-K11K015C-(B)S2	R88D-KN150F-ECT	261	271	450	
	95.5 Nm			15 kW	R88M-K15K015C-(B)S2	R88D-KN150F-ECT					
1000	230 V	130x130	8.59 Nm	900 W	R88M-K90010(H/T)-(B)S2	R88D-KN15H-ECT	86	172	150		
	400 V	130x130	8.59 Nm	900 W	R88M-K90010(F/C)-(B)S2	R88D-KN15F-ECT	92	172	150		
		176x176	19.1 Nm	2 kW	R88M-K2K010(F/C)-(B)S2	R88D-KN30F-ECT	130	213	250		
			28.7 Nm	3 kW	R88M-K3K010(F/C)-(B)S2	R88D-KN50F-ECT					
			43.0 Nm	4.5 kW	R88M-K4K510C-(B)S2	R88D-KN50F-ECT					
			57.3 Nm	6 kW	R88M-K6K010C-(B)S2	R88D-KN75F-ECT					
	Flange dimensions 			Motor model type designation detail H= 230 V and Incremental Encoder T= 230 V and Absolute Encoder F= 400 V and Incremental Encoder C= 400 V and Absolute Encoder B= Motor with Brake (Blank=No brake)			Drive dimensions 				

Linear motors reference list

Type	Rated Force	Peak Force	Max. Speed (m/s)		Linear Coil Model (Without connectors)	Drive Model 230 V	Drive Model 400 V
			230 V	400 V			
Iron-core 	48 N	105 N	5	10	R88L-EC-FW-0303-ANPC	R88D-KN02H-ECT-L	R88D-KN06F-ECT-L
	96 N	210 N			R88L-EC-FW-0306-ANPC	R88D-KN04H-ECT-L	R88D-KN10F-ECT-L
	160 N	400 N	4	8	R88L-EC-FW-0606-ANPC	R88D-KN08H-ECT-L	R88D-KN15F-ECT-L
	240 N	600 N			R88L-EC-FW-0609-ANPC	R88D-KN10H-ECT-L	R88D-KN20F-ECT-L
	320 N	800 N			R88L-EC-FW-0612-ANPC	R88D-KN15H-ECT-L	R88D-KN30F-ECT-L
	608 N	1600 N	2	4	R88L-EC-FW-1112-ANPC	R88D-KN15H-ECT-L	R88D-KN30F-ECT-L
	760 N	2000 N			R88L-EC-FW-1115-ANPC	R88D-KN15H-ECT-L	R88D-KN30F-ECT-L
Ironless 	26.5 N	100 N	16	N/A	R88L-EC-GW-0303-ANPS	R88D-KN02H-ECT-L	N/A
	53 N	200 N			R88L-EC-GW-0306-ANPS	R88D-KN08H-ECT-L	
	80 N	300 N			R88L-EC-GW-0309-ANPS	R88D-KN10H-ECT-L	
	58 N	240 N	4.4	N/A	R88L-EC-GW-0503-ANPS	R88D-KN02H-ECT-L	
	117 N	480 N			R88L-EC-GW-0506-ANPS	R88D-KN04H-ECT-L	
	175 N	720 N			R88L-EC-GW-0509-ANPS	R88D-KN08H-ECT-L	
	117 N	700 N	2.4	N/A	R88L-EC-GW-0703-ANPS	R88D-KN04H-ECT-L	
	232 N	1400 N			R88L-EC-GW-0706-ANPS	R88D-KN08H-ECT-L	
	348 N	2100 N			R88L-EC-GW-0709-ANPS	R88D-KN10H-ECT-L	

MX2 Inverter

Born to drive machines

Thanks to the advanced design and algorithms, the MX2 provides smooth control down to zero speed, plus precise operation for cyclic operations and torque control capability in open loop. The MX2 is fully integrated within the Omron automation solutions.

Frequency response vs Torque variation

(Example with 7.5 kW 4-pole motor)



200% starting torque

- Near stand-still operation (0.5 Hz)
- Smooth control of high inertia loads
- Control of fast cyclic loads

Torque control in open loop

- Ideal for low to medium torque control applications
- Can replace a flux vector inverter or servo drive in suitable systems

EtherCAT

EtherCAT connectivity

- Compliant with CoE -CiA402 Drive profile-
- Velocity Mode



Quick response to load fluctuation

- MX2 provides accurate speed control with less than 2% error at 1Hz
- Stable control without lowering machine speed

Special motors

- Permanent magnet motors
- High speed motors up to 1000 Hz

MX2 features

- Torque control in open loop, ideal for low to medium torque applications
- 200% starting torque near stand-still operation (0.5 Hz)
- Specialized motor control for PM motor and high speed motors up to 1000 Hz
- One parameter auto-tuning just by entering the kW rating of the motor
- Simple positioning functionality built-in

Reference list

Inverter specifications									
Voltage	Variable Torque		Constant Torque		Drive Model	EtherCAT Option Unit Model	W	D	H
	Motor (kW)	Output current	Motor (kW)	Output current					
Single-phase 200 V	0.2	1.2 A	0.1	1.0 A	3G3MX2-AB001-E	3G3AX-MX2-ECT	68	141	128
	0.4	1.9 A	0.2	1.6 A	3G3MX2-AB002-E				
	0.55	3.5 A	0.4	3.0 A	3G3MX2-AB004-E			155	
	1.1	6.0 A	0.75	5.0 A	3G3MX2-AB007-E		108	202,5	
	2.2	9.6 A	1.5	8.0 A	3G3MX2-AB015-E				
	3.0	12.0 A	2.2	11.0 A	3G3MX2-AB022-E				
Three-phase 200 V	0.2	1.2 A	0.1	1.0 A	3G3MX2-A2001-E	3G3AX-MX2-ECT	68	141	128
	0.4	1.9 A	0.2	1.6 A	3G3MX2-A2002-E				
	0.55	3.5 A	0.4	3.0 A	3G3MX2-A2004-E			145	
	1.1	6.0 A	0.75	5.0 A	3G3MX2-A2007-E		108	178	
	2.2	9.6 A	1.5	8.0 A	3G3MX2-A2015-E			203	
	3.0	12.0 A	2.2	11.0 A	3G3MX2-A2022-E				
	5.5	19.6 A	3.7	17.5 A	3G3MX2-A2037-E		140		
	7.5	30.0 A	5.5	25.0 A	3G3MX2-A2055-E			187	260
	11	40.0 A	7.5	33.0 A	3G3MX2-A2075-E				
	15	56.0 A	11	47.0 A	3G3MX2-A2110-E		180	207	296
	18.5	69.0 A	15	60.0 A	3G3MX2-A2150-E			220	350
	Three-phase 400 V	0.75	2.1 A	0.4	1.8 A		3G3MX2-A4004-E	3G3AX-MX2-ECT	108
1.5		4.1 A	0.75	3.4 A	3G3MX2-A4007-E	203			
2.2		5.4 A	1.5	4.8 A	3G3MX2-A4015-E				
3.0		6.9 A	2.2	5.5 A	3G3MX2-A4022-E				
4.0		8.8 A	3.0	7.2 A	3G3MX2-A4030-E	140			
5.5		11.1 A	4.0	9.2 A	3G3MX2-A4040-E				
7.5		17.5 A	5.5	14.8 A	3G3MX2-A4055-E		187		260
11		23.0 A	7.5	18.0 A	3G3MX2-A4075-E				
15		31.0 A	11	24.0 A	3G3MX2-A4110-E	180	207		296
18.5		38.0 A	15	31.0 A	3G3MX2-A4150-E				
							Drive dimensions		
									

Xpectia FZM1 vision system

Machine Vision tailored for pick & place

The FZM1 Vision System is optimized to detect the position and orientation of any object at high speed and with high accuracy. The FZM1 provides a new generation of image processing technologies and an intuitive user interface optimized for positioning applications. The built-in EtherCAT communications enables reliable and easy networking with motion control increasing the overall machine performance.

EtherCAT[®]

Stable measurements under changing conditions

- Differences of the work piece
- Dust and dirt
- Changing ambient environment

Alignment and quality inspection in one system

- Inspection of scratches and defects
- Detection of dirty or overlapping objects
- Edge and corner breakage inspection



Flexible camera installation

- Use different fields of vision
- Install at any angle





Shape based object positioning:

- Separation of attached objects
- Detection of partially hidden objects
- Compensation of rounded or broken edges



FZM1 features

- Easy and guided setup using the Application Wizard
- Simple auto-calibration with the picker
- High speed cameras and positioning algorithm
- Simultaneous quality inspection
- EtherCAT connectivity built-in

Reference list

Controller description	Model
Xpectia FZM1 controller with EtherCAT, Two cameras, NPN Output	FZM1-350-ECT
Xpectia FZM1 controller with EtherCAT, Two cameras, PNP Output	FZM1-355-ECT
Camera description	Model
High-speed Monochrome camera, 300000 pixels	FZ-SH
High-speed Colour camera, 300000 pixels	FZ-SHC
Digital Monochrome camera, 300000 pixels	FZ-S
Digital Colour camera, 300000 pixels	FZ-SC
Digital Monochrome camera, 2 million pixels	FZ-S2M
Digital Colour camera, 2 million pixels	FZ-SC2M

GX Series Block I/O

High-speed remote I/O terminals

An extensive line-up of digital I/O terminals, analogue I/O terminals and encoder input terminal are available for EtherCAT connectivity. The wiring type of the digital I/O terminal can be either screw terminal block or e-CON formats, it's your choice.



GX I/O features

- Easy installation and wiring, all modules have EtherCAT connectivity built-in
- Simple setup, EtherCAT node addresses can be easily set with a simple rotary switch
- The allocation area of the remote I/O terminal is automatically decided by simply setting the node address
- High-speed input
- The digital I/O terminals are equipped with high-speed input functionality, ON/OFF delay of 200 μ s max.
- Digital input filter prevents malfunction when status is unstable due to chattering or noise. Available input filter values are 0 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms and 32 ms

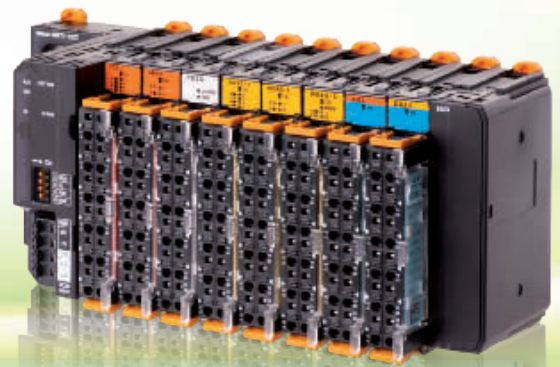
Reference list

Unit description	Specification, modules with EtherCAT	Model
16 NPN inputs	24 VDC, 6 mA, 1-wire connection, expandable	GX-ID1611
16 PNP inputs	24 VDC, 6 mA, 1-wire connection, expandable	GX-ID1621
16 NPN outputs	24 VDC, 500 mA, 1-wire connection, expandable	GX-OD1611
16 PNP outputs	24 VDC, 500 mA, 1-wire connection, expandable	GX-OD1621
8 inputs and 8 outputs, NPN	24 VDC, 6 mA input, 500 mA output, 1-wire connection	GX-MD1611
8 inputs and 8 outputs, PNP	24 VDC, 6 mA input, 500 mA output, 1-wire connection	GX-MD1621
16 NPN inputs	24 VDC, 6 mA, 3-wire connection	GX-ID1612
16 PNP inputs	24 VDC, 6 mA, 3-wire connection	GX-ID1622
16 NPN outputs	24 VDC, 500 mA, 3-wire connection	GX-OD1612
16 PNP outputs	24 VDC, 500 mA, 3-wire connection	GX-OD1622
8 inputs and 8 outputs, NPN	24 VDC, 6 mA input, 500 mA output, 3-wire connection	GX-MD1612
8 inputs and 8 outputs, PNP	24 VDC, 6 mA input, 500 mA output, 3-wire connection	GX-MD1622
16 relay outputs	250 VAC, 2 A, 1-wire connection, expandable	GX-OC1601
4 analogue inputs, current/voltage	± 10 V, 0-10 V, 0-5 V, 1-5 V, 4-20 mA	GX-AD0471
2 analogue outputs, current/voltage	± 10 V, 0-10 V, 0-5 V, 1-5 V, 4-20 mA	GX-DA0271
2 encoder open collector inputs	500 kHz Open collector input	GX-EC0211
2 encoder line-driver inputs	4 MHz Line driver input	GX-EC0241

SmartSlice

Plug-and-Play I/O for Trajexia

SmartSlice I/O units extend Trajexia's I/O capability with digital and analogue I/O units, ranging from basic relay outputs to configurable temperature inputs. All SmartSlice units feature screwless 'push-in' I/O wiring, detachable I/O connector, and hot-swap capability. The SmartSlice EtherCAT "coupler" automatically scans the connected I/O units at startup. The Trajexia controller with EtherCAT master will automatically map the detected I/O data to its designated I/O allocations.



SmartSlice I/O features

- Up to 64 I/O units per station
- Automatic I/O assignment
- Easy configuration backup
- Hot-swap with auto-restore
- Optional address setting

Reference list

Unit description	Specification	Model
SmartSlice EtherCAT coupler	SmartSlice EtherCAT coupler	GRT1-ECT
End plate	one unit required per bus interface	GRT1-END
4 NPN inputs	24 VDC, 6 mA, 3-wire connection	GRT1-ID4
4 PNP inputs	24 VDC, 6 mA, 3-wire connection	GRT1-ID4-1
8 NPN inputs	24 VDC, 4 mA, 1-wire connection + 4xG	GRT1-ID8
8 PNP inputs	24 VDC, 4 mA, 1-wire connection + 4xV	GRT1-ID8-1
4 AC inputs	110 VAC, 2-wire connection	GRT1-IA4-1
4 AC inputs	230 VAC, 2-wire connection	GRT1-IA4-2
4 NPN outputs	24 VDC, 500 mA, 2-wire connection	GRT1-OD4
4 PNP outputs	24 VDC, 500 mA, 2-wire connection	GRT1-OD4-1
4 PNP outputs with short-circuit protection	24 VDC, 500 mA, 3-wire connection	GRT1-OD4G-1
4 PNP outputs with short-circuit protection	24 VDC, 2 A, 2-wire connection	GRT1-OD4G-3
8 NPN outputs	24 VDC, 500 mA, 1-wire connection + 4xV	GRT1-OD8
8 PNP outputs	24 VDC, 500 mA, 1-wire connection + 4xG	GRT1-OD8-1
8 PNP outputs with short-circuit protection	24 VDC, 500 mA, 1-wire connection + 4xG	GRT1-OD8G-1
2 relay outputs	240 VAC, 2 A, normally-open contacts	GRT1-ROS2
2 analogue inputs, current/voltage	±10 V, 0-10 V, 0-5 V, 1-5 V, 0-20 mA, 4-20 mA	GRT1-AD2
2 analogue outputs, voltage	±10 V, 0-10 V, 0-5 V, 1-5 V	GRT1-DA2V
2 analogue outputs, current	0-20 mA, 4-20 mA	GRT1-DA2C
2 Pt100 inputs	Pt100, 2-wire or 3-wire connection	GRT1-TS2P
2 Pt1000 inputs	Pt1000, 2-wire or 3-wire connection	GRT1-TS2K
2 Thermocouple inputs	Types B, E, J, K, N, R, S, T, U, W, PL2, with cold junction compensation	GRT1-TS2T

Note: SmartSlice EtherCAT coupler is only supported by Trajexia

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