Eurotherm

Temperature Control, Measurement and Data Recording Solutions

Product Selection guide

Eurotherm®

by **Schneider** Electric

Eurotherm

As part of the Schneider Electric business, Eurotherm is a leading global supplier of industrial and process control, measurement and data management solutions and services. Our innovative products and solutions are designed to bring real benefits to customers by optimising processes, operations and plant efficiency.

Our wide range of products is rich in features and designed for easy operation and reduced engineering time. They contain market-leading control algorithms, recording and data management strategies which add value to industrial processes, improving quality, reducing waste and ensuring data is kept safe for as long as it is needed.

Decades of experience in providing world-class process control, recording and automation are supported by a continuous research and development programme to ensure our solutions meet the modern challenges faced across a wide range of industries. Our customers are fully supported by a global sales and service network of highly qualified engineering personnel who understand the applications and industries they serve.

For more information click on www.eurotherm.com/worldwide

Contents

Eurotherm Products

PID Controllers, Indicator and Alarm Units

Improve process efficiency, product quality and minimise waste with our high accuracy controllers. These feature-rich instruments offer versatility in application and have clear, user friendly operator interfaces. Quickstart features, help text and PC graphical wiring ensure your engineering costs are minimised even with the most sophisticated of configurations.

Recorders & Data Management

Ensure your precious process data is kept safe with our range of state-of-the-art recorders and data management software. Along with some of the best, proven recording and archiving strategies, Eurotherm recorders offer a wealth of functions including batch, audit trail, electronic signatures and remote viewing/operation – ensuring operational efficiency is optimised and enabling you to convert data into the information required to add value to a process.

Solid State Relays (SSRs),
Power Switches and Power Controllers

Improve process performance and save on energy costs with our formidable range of power products. Covering all types of load and voltage, these reliable products offer features such as high performance alarm strategies and advanced diagnostic load fault detection and are supported by our vast experience in all types of power control applications.

AC Drives, DC Drives and Starters

With a wide range of simple yet clever drives and soft starters, Eurotherm can support all manner of applications and industries. From simple applications to complex systems, the units offer accurate, dynamic performance with easy installation and operation.

Plastics Machine Control Systems

Our plastics machine control systems are designed to save plastics OEMs and producers time and money. A revolutionary building block architecture adapts to ever changing needs to ensure your system continues to offer you the best in productivity and flexibility.

Machine Control and PAC

Eurotherm brings a wealth of expertise in process automation across many industries and offers high performance solutions designed to provide ongoing operational efficiency. Our solutions are fully scalable from the smallest HMI to a large, enterprise wide automation network and minimise initial engineering costs with consistent, flexible tool sets.

I/O Signal Conditioning, Probes, Thermosensors and Actuators

Our wide range of signal conditioning, sensing and actuation equipment is designed for you to get the best from your process with accurate, reliable performance. Competitively priced, these products offer quality solutions for a range of applications from furnace to atmosphere control systems. The complete range includes accessories and quality control products to ensure you get everything you need for a complete solution.

Service and Support

Our expert services will ensure your processes are supported, maintained and optimised. Our experienced engineers, supported by industry specialists across Eurotherm, will work with you to ensure you are getting the best from your processes. Latest online tools further help you to ensure easy, ongoing operational efficiency.
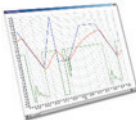
PID Controllers, Indicators and Alarm Units

Single Loop

FEATURES	2100 Series	3200 Series				2200 Series			2400 Series			3500 Series	
	2132	3216	3208	32h8	3204	2216e	2208e	2204e	2416	2408	2404	3508	3504
Panel size (DIN)	1/32	1/16	1/8	1/8	1/4	1/16 (DIN rail)	1/8	1/4	1/16	1/8	1/4	1/8	1/4
IP Rating	IP65	IP65, NEMA12				IP65			IP65			IP65, NEMA12	
Display Type	1 x 4 dig LED	Main: 4 digits Lower: 5 character starburst (3216/08/04) 9 character starburst (32h8)				2 x 4 dig LED			2 x 4 dig LED			Main PV: 5 digit plus 4 line alphanumeric	
Supply Voltage	24V dc/ac 85-264V ac	24V dc/ac 85-264V ac				85-264V ac			24V dc/ac 85-264V ac			24V dc/ac, 85-264V ac	
Safety Approvals	✘	EN14597 TR				✘			✘			✘	
Input Type	TC, RTD, mV, mA, V	TC, RTD, mV, mA, CT				TC, RTD, mV, mA, Volts			TC, RTD, mV, mA, Volts			TC, RTD, mV, mA, Volts	
PV Accuracy	<0.25%	<0.25%				<0.25%			<0.2%			<0.1%	
Control Types	On/Off. PID	On/Off. PID, VP				On/Off. PID, VP			On/Off, PID, VP			On/Off, PID, VP	
Special Features	✘	Recipes, Text messaging				✘			Dual input control			User wiring, Master comms	
SP Programmer	✘	4 Ramp + 4 Dwell				✘			20 x 16 Segments			50 Programmes, 500 Segments max	
Analogue IP/OP	In: 1 Out: 0	In: 2 Out: 3				In: 1 Out: 1			In: 2 Out: 3			In: 5 Out: 6	
Digital IP/OP	In: 1 Out: 2	In: 3 Out: 4				In: 3 Out: 4			In: 11 Out: 11			In: 40 Out: 41	
Digital Comms	✘	Modbus				Modbus, DeviceNet			Modbus, DeviceNet, Profibus			Modbus, DeviceNet, Profibus, Ethernet	
Maths Equation	✘	✘				✘			✘			24 Calculations	
Combinational Logic	✘	✘				✘			✘			24 Operations	
Timers/Counters/Totals	✘	✘				✘			✘			4 / 2 / 2	
Real Time Clock	✘	✘				✘			✘			Day and Time	
Alarm Types	Hi, Lo, Dev, Sensor break	Hi, Lo, Dev, Heater fail Sensor break, Event				Hi, Lo, Dev, Heater fail Sensor break, Event			Hi, Lo, Dev, Heater fail Sensor break, Event			Hi, Lo, Dev, Heater fail Sensor break, Event	
PC Configuration	List based	Wizard				List based			List based			Graphical Wiring	
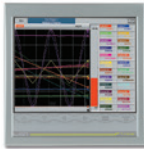
Multi Loop

FEATURES	nanodac™ Controller	3500 Series		2604	2704	Mini8™ Controller
	nanodac	3508	3504	2604	2704	Mini8
Panel size (DIN)	1/4	1/8	1/4	1/4		DIN rail
IP Rating	IP65, NEMA12	IP65, NEMA12		IP65		IP20
Display Type	3.5" TFT colour 320 x 240 pixels	Main PV: 5 digit plus 4 line alphanumeric		2 x 5 dig LED + 2 line text	Dot Matrix	Remote
Supply Voltage	24V dc/ac 85-264V ac	24V dc/ac 85-264V ac		24V dc/ac, 85-264V ac		24V dc
Input Type	TC, RTD, mV, mA	TC, RTD, mV, mA, Volts		TC, RTD, mV, mA, Volts		TC, mV, RTD, mA, CT
PV Accuracy	<0.1%	<0.1%		<0.1%		<0.1%
Control Types	On/Off, PID, VP	On/Off, PID, VP		On/Off, PID, VP		On/Off, PID
Control Loops	2	2		3		16
Control Algorithms	Single, Cascade, User wired	Single, Override, User wired		Single, Cascade, Override, User wired		Single, User wired
Special Features	Relative Humidity, Washdown Faceplate, User Wires, Carbon Potential	Carbon Potential, Humidity, Melt Pressure, User wiring, Master comms		Carbon Potential, Humidity, Melt Pressure, User wiring, Master comms	Carbon Potential, Humidity, Melt Pressure, Vacuum,	Humidity, Load diagnostics, User wiring
SP Programmer	100 Programmes, 25 Segments Local/USB/FP	50 Programmes, 500 Segments max		50 Programmes, 500 Segments max	60 Programmes, 600 Segments max	8 Programmes, 16 Segments each
Analogue IP/OP	In: 8 Out: 3	In: 5 Out: 6		In: 8 Out: 8		In: 32 Out: 8
Digital IP/OP	In: 4 Out: 5	In: 40 Out: 41		In: 44 Out: 43		In: 34 Out: 32
Digital Comms	Modbus TCP/IP Master/Slave EtherNet/IP Client/Server	Modbus, DeviceNet, Profibus, Ethernet		Modbus, DeviceNet, Profibus	Modbus, DeviceNet, Profibus, Ethernet	Modbus, DeviceNet, Profibus, Modbus TCP/IP EtherNet/IP Server
Maths Equation	17 Calculations	24 Calculations		24 Calculations	32 Calculations	24 Calculations
Combinational Logic	24 Operations	24 Operations		32 Operations		24 Operations
Timers/Counters/Totals	4 / 15 / 15	4 / 2 / 2		4 / 0 / 4		4 / 2 / 2
Real Time Clock	Day and Time	Day and Time		Day and Time		Day and Time
Alarm Types	Hi, Lo, Dev	Hi, Lo, Dev, Heater fail Sensor break, Event		Hi, Lo, Dev, Heater fail, Event		Hi, Lo, Dev, Heater fail Sensor break, Event
PC Configuration	Graphical Wiring	Graphical Wiring		Graphical Wiring		Graphical Wiring

Indicators and Alarm Units	2100 Series	3200 Series			2400 Series
	2132i	3216i	32h8i	3204i	2408i
FEATURES					
Panel size (DIN)	1/32	1/16	1/8	1/4	1/8
IP Rating	IP65	IP65, NEMA12	IP65, NEMA12	IP65, NEMA12	IP65
Display Type	4 Digit LED	4 Digit LCD plus 5 character alphanumeric	5 Digit LCD plus 9 character alphanumeric	4 Digit LCD plus 5 character alphanumeric	Large 5 Digit LED
Supply Voltage	24V dc/ac 85-264V ac	24V dc/ac 85-264V ac	24V dc/ac 85-264V ac	24V dc/ac 85-264V ac	24V dc/ac 85-264V ac
Safety Approvals	none	EN14597/TW, FM	EN14597/TW, FM	EN14597/TW, FM	✗
Input Type	TC, RTD, mV, mA, Custom	TC, RTD, mV, mA, Custom	TC, RTD, mV, mA, Volts, Custom, Strain gauge	TC, RTD, mV, mA, Custom	TC, RTD, mV, mA, Volts, Custom
User Calibration	2 point	5 point	5 point, Shunt, Load cell, Auto tare	5 point	15 point, Shunt, Load cell, Comparison, Auto tare
PV Input Selection	✗	✗	✗	✗	Hi, Lo, Select, Switchover, Derived
No of Alarms	3	4	4	4	8
Alarm Types	Hi, Lo, Dev, Sensor break	Hi, Lo, Dev, Sensor break, Rate of change	Hi, Lo, Dev, Sensor break, Rate of change	Hi, Lo, Dev, Sensor break, Rate of change	Hi, Lo, Dev, Sensor break, Rate of change, Event
No of Relay Outputs	2	3	2	2	7
Digital IP/Logic OP	1/2	2/0	2/0	2/0	2 plus possible further 9/9
Retransmission	✗	Non isolated	Isolated	Isolated	Isolated
Custom Messages	✗	128 Characters	128 Characters	128 Characters	✗
Slave Comms	✗	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU, DeviceNet, Profibus DP
Melt Pressure	✗	✗	✓	✗	✓
Transducer PSU	✗	✗	10V dc	✗	5/10V dc
Transmitter PSU	✗	✗	24V dc	24V dc	24V dc
PC Configuration	List based	Graphical Wiring	Graphical Wiring	Graphical Wiring	List based

Melt Pressure	piccolo	
FEATURES	P304C	P304I
Panel size (DIN)	1/4	1/4
IP Rating	IP55	IP55
Display Type	2 x 5 digit LED	2 x 5 digit LED
Supply Voltage	24V dc/ac 85-264V ac	24V dc/ac 85-264V ac
Input Type	2 x strain gauge, Linear 0-10V, 0-20mA	2 x strain gauge, Thermocouple, PT100, PT500, Linear 0-10V, 0-20mA
PV Accuracy	<0.1%	<0.1%
Control Types	Melt pressure, Differential melt pressure	Melt pressure indication
Control Loops	1	✗
Control Algorithms	PID	✗
Special Features	50mS update	50mS update
Shunt Cal	✓	✓
Transducer Power Supply	✓	✓
Analogue IP/OP	2 (control, retrans)	2 (retrans)
Digital IP/OP	In: 4 Out: 3	Out: 3
Digital Comms	Modbus RTU	Modbus RTU
Alarm Types	High, Low, Deviation, Differential pressure	High, Low, Deviation, Differential pressure
PC Configuration	Eurotherm iTools	Eurotherm iTools

Software

Configuration Tools

Eurotherm iTools

Recorders and Data Management

Paperless/Graphic

FEATURES	nanodac	6100A	6180A	6100XIO	6180XIO	6180AeroDAQ	6100E
Inputs	4	18	48	✗	✗	48	6
Graphic Display	3.5" TFT 320 x 240 pixels	5.5"	12.1"	5.5"	12.1"	12.1"	5.5"
Protection	IP65, NEMA12	IP66	IP66	IP66	IP66	IP66	IP66
Relay Outputs	✓	✓	✓	✗	✗	✓	✓
Annotation	✓	✓	✓	✓	✓	✓	✓
Contact Inputs	✓	✓	✓	✗	✗	✓	✗
Communications	Modbus TCP/RTU Master & Slave, EtherNet/IP Server						Modbus TCP Slave
Mathematics	✓	✓	✓	✓	✓	✓	✓
Counters	✓	✓	✓	✓	✓	✓	✓
Timers	✓	✓	✓	✓	✓	✓	✓
Totalisers	✓	✓	✓	✓	✓	✓	✓
PC Configuration	✓	✓	✓	✓	✓	✓	✓
Ethernet/FTP	✓	✓	✓	✓	✓	✓	✓
Auditor Features	✗	✓	✓	✓	✓	✓	✗
Batch	✗	✓	✓	✓	✓	✓	✗
Custom Screens	✗	✓	✓	✓	✓	✓	✗
Remote Viewing	✓	✓	✓	✓	✓	✓	✓
Recording Speed	8Hz	8Hz	8Hz	8Hz	8Hz	8Hz	1Hz
Trend Speed	8Hz	8Hz	8Hz	8Hz	8Hz	8Hz	1Hz
Network Addressing	DHCP, Fixed IP	DHCP, Boot P, Fixed IP					
USB	1	3	3	1	1	3	1
Reports	✗	10	10	10	10	10	✗
Groups	1	12	12	12	12	12	1
Review of History (on screen)	✓	✓	✓	✓	✓	✓	✓
AMS2750E	✓	✓	✓	✓	✓	✓	✗

Paper

	Strip Chart				Circular
FEATURES	4102C	4102M	4103C	4103M	392
Inputs	4	6	4	6	4
Chart Width	100mm		100mm		10" circular
Protection	IP54		IP54		NEMA 3
Relay Outputs	✓		✓		✓
Annotation	✓		✓		✗
Contact Inputs	✗		✓		✓
Modbus (Serial)	✗		Slave		✗
Removable/Data Storage	✗		✓		✗
Mathematics	✗		✓		✓
Counters	✗		✓		✗
Timers	✗		✓		✓
Totalisers	✗		✓		✓
Controllers	✗		✗		✓
PC Configuration	✓		✓		✗

Software

	Visualisation Packages		Data Reporting & Manipulation				Applications
Software	Bridge	Eyris™ Software	Review	Review QuickChart	Dream Report	TUS	Security Manager

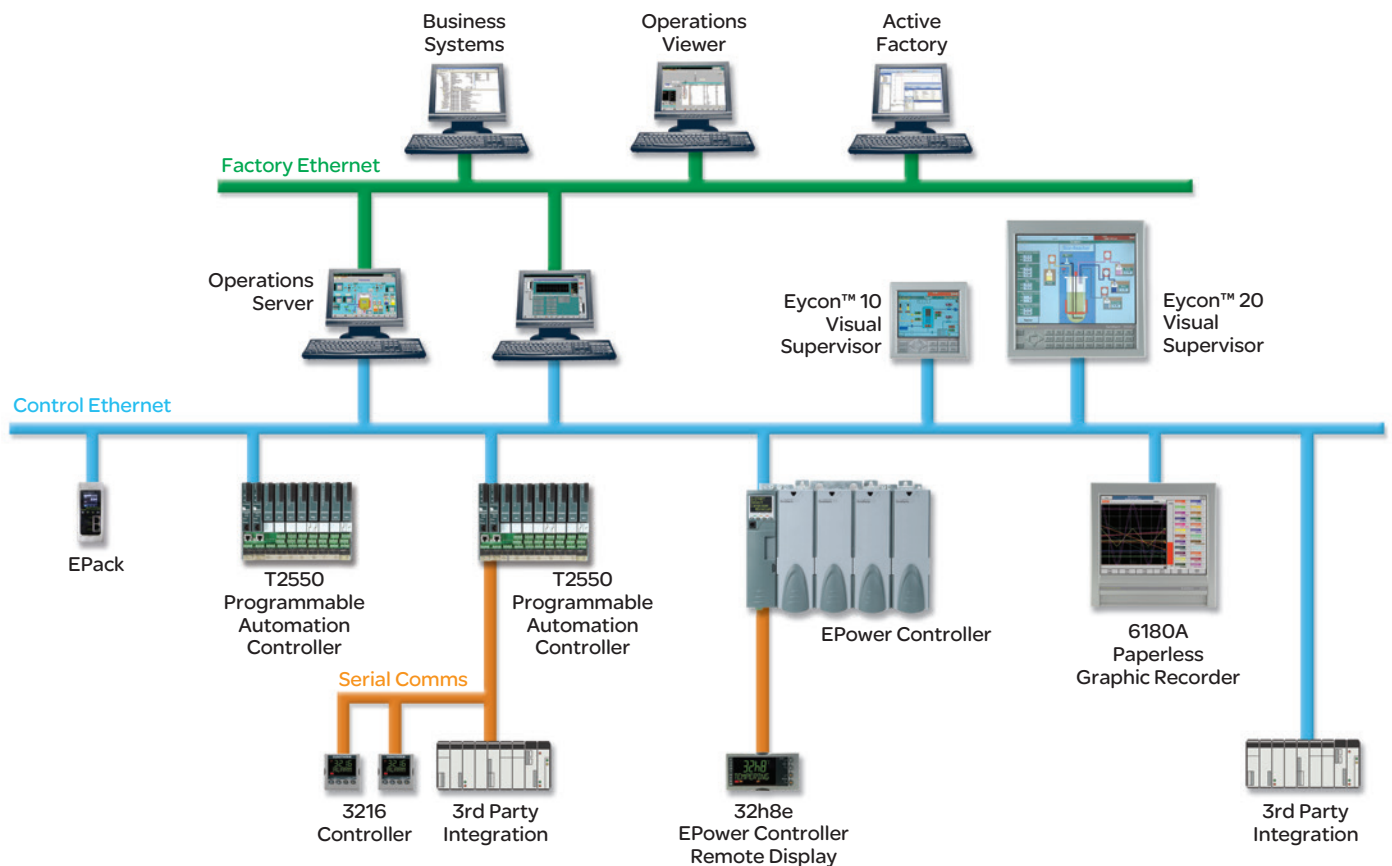|	Portable TUS Recorders		versadac™ Scalable Data Recorder	optivis™ HMI Solution
	6100A	6180A	versadac	optivis
	15	30	64 and 256 Dig	✗
	5.5"	12.1"	✗	7" or 12"
	IP66	IP66	IP21	IP65
	✗	✗	✓	✗
	✓	✓	✓	✓
	✗	✗	✓	✗
	Modbus TCP/RTU Master & Slave, EtherNet/IP Server			42 Different Protocols
	✓	✓	✓	✓
	✓	✓	✓	✗
	✓	✓	✓	✗
	✓	✓	✓	✗
	✓	✓	✓	✗
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✗	✓
	✓	✓	✓	✓
	8Hz	8Hz	8Hz	✓
	8Hz	8Hz	8Hz	✓
	DHCP, Boot P, Fixed IP		DHCP, Fixed IP	DHCP, Fixed IP
	3	3	1	✓
	10	10	10	✓
	12	12	30	✓
	✓	✓	✗	✓
	✓	✓	✗	✗

Solid State Relays (SSRs), Power Switches and Power Controllers

Solid State Relays (SSRs)

FEATURES		Solid State Relays		DIN Rail Solid State Relays			I/O Series	
		SVDA, SVAA	SVDD	RVD3, RVA3, RVM3	RVDA, RVAA, RVMA	RSDA, RSAA	Input Module	Output Module
Heater Type	Constant Resistance	✓	✓	✓	✓	✓	✓	✓
	Inductive/Coil	✓	✓	✓	✓	✓	✓	✓
AC Output		✓	✗	✗	✗	✗	✗	✓
DC Output		✗	✓	✗	✗	✗	✓	✓
Maximum Current (Amps)		75A	40A	25A	40A	100A	100mA	3A
Maximum Voltage (Volts)		500V	100V	500V	500V	500V	28V	60V dc/250V ac
Integrated Heatsink		✗	✗	✓	✓	✓	✓	✓
Controlled Phases		1	1	3	1	1	1	1
Input	Analogue	✗	✗	✗	✓	✓	✗	✗
	Logic dc	✓	✓	✓	✓	✓	✓	✓
	Logic ac	✓	✗	✓	✓	✓	✓	✓
Firing Mode	Zero Crossing	✓	✗	✓	✓	✓	✗	✓
	Burst Firing	✗	✗	✓	✓	✗	✗	✗
Built-in Fuse		✗	✗	✗	✗	✓	✗	✓
Overtemperature Alarm		✗	✗	✗	✗	✓	✗	✗
CE Compliant		✓	✗	✓	✓	✓	✓	✓
UL/CSA		✓	✗	✓	✓	✓	✓	✓

Power Switches

FEATURES		Single Phase			Multi Phase			
		7100L	TE10S	7100S	7200S	TE200S	TC2000	7300S
Heater Type	Constant Resistance	✓	✓	✓	✓	✓	✓	✓
	SWIR (Short wave infrared)	✗	✓	✓	✓	✓	✓	✓
Maximum Voltage (Volts)		500V	500V	500V	500V	500V	500V	500V
Maximum Current (Amps)		100A	50A	250A	200A	63A	500A	160A
Controlled Phases		1	1	1	2	2	2	3
Input	Analogue	✗	✗	✓	✓	✗	✓	✓
	Logic	✓	✓	✓	✓	✓	✓	✓
Firing Mode	Burst Firing	✓	✓	✓	✓	✓	✓	✓
PLF and/or PLU		✗	✓	✓	✓	✗	✓	✓
Diagnostics		✗	✗	✓	✓	✗	✓	✓
Alarms		✗	✓	✓	✓	✗	✓	✓
Digital Communications		✗	✗	Modbus	Modbus	✗	✗	Modbus

	Power Controller		Single Phase		Multi Phase		
FEATURES	**EPower Controller**	**EPack**	**EFit**	**7100A**	**7200A**	**TE200A**	**7300A**
Heater Type Constant Resistance	✓	✓	✓	✓	✓	✓	✓
SWIR (Short wave infrared)	✓	✓	✓	✓	✓	✓	✓
Variable Resistance	✓	✓	✓	✓	✗	✗	✓
Inductive/Transformer Coupled	✓	✓	✓	✓	✗	✗	✓
True Power Control	✓	✓	✗	✗	✗	✗	✓
Maximum Voltage (Volts)	690V	500V	500V	500V	500V	500V	500V
Maximum Current (Amps)	Compact 50-630A Decentralised 800-4000A (MC)	125A	50A	250A	200A	63A	160A
Controlled Phases	1-4 x 1, 1-2 x 2 or 3	1	1	1	2	2	3
Input Analogue	✓	✓	✓	✓	✓	✓	✓
Logic	✓	✓	✓	✓	✓	✓	✓
Firing Mode Phase Angle	✓	✓	✓	✓	✗	✗	✓
Burst Firing	✓	✓	✓	✓	✓	✓	✓
PLF and/or PLU	✓	✓	✗	✓	✓	✗	✓
Current Limit	✓	✓	✓	✓	✗	✗	✓
Diagnostics	✓	✓	✗	✓	✓	✗	✓
Alarms	✓	✓	✗	✓	✓	✗	✓
Digital Communications	Profibus, EtherNet/IP, CC-Link, DeviceNet, Modbus, Modbus TCP, ProfiNet	Modbus TCP	✗	✗	✗	✗	Modbus

Power Control

AC Drives, DC Drives and Soft Starters (check region for availability)

Variable Speed Drive

AC Drives				
FEATURES	**Altivar 12**	**Altivar 312**	**Altivar 61/71**	**Altivar 71 Plus**
Power Rating	0.18-4kW 0.25-5.5HP	0.18-15kW 0.25-20HP	0.37-630kW 0.5-845HP	90-2000kW 120-2681HP
Supply Voltage	100-120V ac, 1-phase 200-240V ac, 1-phase 200-240V ac, 3-phase	200-240V ac, 1-phase 200-240V ac, 3-phase 380-500V ac, 3-phase 525-600V ac, 3-phase	200-240V ac, 1-phase 200-240V ac, 3-phase 380-690V ac, 3-phase	380-415V ac, 3-phase 500-525V ac, 3-phase 600-690V ac, 3-phase
Display	Integral or Remote	Integral or Remote	Integral or Remote	Remote
Control Mode	V/Hz Sensorless Vector V²/Hz	V/Hz Sensorless Vector	V/Hz Sensorless Vector Closed loop Vector Permanent Magnet (PM) Motor	V/Hz Sensorless Vector Closed loop Vector Permanent Magnet (PM) Motor
Communication	Modbus RTU	Modbus RTU, Devicenet, Profibus DP, CANopen	Modbus RTU, Devicenet, Profibus DP, Ethernet/IP, Modbus TCP, CANopen	Modbus RTU, Devicenet, Profibus DP, Ethernet/IP, Modbus TCP, CANopen
Cooling	✗	Aircooling	Aircooling	Aircooling and Watercooling
Configuration Software	SoMove SoMove Mobile	SoMove SoMachine SoMove Mobile	SoMove SoMachine	SoMove SoMachine

Soft Starters			
FEATURES	**Altistart 01**	**Altistart 22**	**Altistart 48**
Power Rating	0.37-15kW 0.5-20HP	4-400kW 5-540HP	4-630kW 5-845HP
Control Voltage	24V dc 110-240V ac	110V ac 230V ac	220-415V ac 110-230V ac
Motor Voltage	110-480V ac 200-480V ac	230-440V ac 208-600V ac	230-415V ac 208-690V ac
Display	✗	Integral or Remote	Integral or Remote
Phases	1-phase 2-phase	3-Phase	3-Phase
Communication	✗	Modbus RTU, Communication Bridge	Modbus RTU, Bridge to Ethernet Profibus DP, Devicenet
Configuration Software	✗	SoMove	SoMove

DC Drives	Variable Speed Drive		
FEATURES	**ER-340/-680/-1200**	**ER-3200i/3600XRi**	**ER-PL/ER-PLX**
Power Rating	0.55-1.8kW (at 180V armature voltage)	2.2-11kW (at 320V armature voltage)	15-1000kW (at 460V armature voltage)
Supply Voltage	110-240V, 30-60V	110/240, 240/415V	100-480V, 100-690V
Phases	1-Phase	1-Phase	3-Phase
Control Mode	1- and 4-Quadrant	1- and 4-Quadrant	1- and 4-Quadrant
Communication	✘	✘	Profibus DP, DeviceNet, CANopen, Modbus RTU
Armature Current	3.4-12.2A	4-48A	36-2250A
Configuration Software	✘	✘	ER-PL Pilot and SAVVY

Software

Configuration and Diagnostic	Function Block Programming
SoMove	SoMachine
Remote Configuration and Diagnostic	**Simple Backup and Restore**
SoMove Mobile	Simple & Multi-Loader
Configuration and Diagnostic	**Graphical Function Block Programming**
ER-PL PILOT	SAVVY

Plastics Machine Control Systems

MACO Control Systems	Compact Systems				ASB/RS/SRS Systems			Alpha Systems			
FEATURES	MCD2	MC4C	MCJ	EM-3c	DS1x	DS8x	DS4x	47x0	49x0	6Cxx	6xxx
Description	Operator Station	Control System	Breeze IIc Parison Control	Extrusion Control	MACO ASB	MACO RS	MACO SRS	Custom 4, 5 & 6	Custom 40 & 50	MACO 4000, 5000 & 6000	MACO 4500, 5500 & 6500
Display Type	12.1" TFT color LCD touch-screen CE.net SVGA	✗	12.1" TFT color LCD touch-screen CE.net SVGA	12.1" TFT color LCD touch-screen CE.net SVGA	✗	✗	✗	✗	✗	✗	✗
Pixel Size	800 x 600	✗	800 x 600	800 x 600	✗	✗	✗	✗	✗	✗	✗
Chassis	✗	4-slot enclosed	Cards built in display	4-slot enclosed	4-slot enclosed	8-slot open	4-slot open or enclosed	7-slot open	9-slot open	12-slot open	16-slot enclosed
Approvals	CE, cULus				CE, cULus	cULus		cULus	CE, cULus		
Host Comms	Ethernet Modbus TCP/IP		Modbus Plus, Ethernet Modbus TCP/IP, RS485	Ethernet Modbus TCP/IP	Modbus Plus, Modbus TCP/IP	Modbus Plus, Modbus TCP/IP, RS485		RS485, SPI, Modbus RS485 RTU			
IO BUS	Primary Modbus TCP/IP, Modbus Plus, Can Bus Open, RS232/485 Modbus RTU, Profibus, Interbus S, DeviceNet		Modbus TCP/IP	Primary Modbus TCP/IP, Modbus Plus, Can Bus Open, RS232/485 Modbus RTU, Profibus, Interbus S, DeviceNet	Modbus Plus, Modbus TCP/IP, RS232/485 Modbus RTU, Profibus, Interbus S, DeviceNet			RS485 MACOnet			
Options	PC based WW InTouch	6 or 8 slot open	PC based WW InTouch	PC based WW InTouch	Application specific block (ASB)	✗	✗	✗	✗	✗	✗

Operator Stations	OPtima/Lite	OPtima Touch PCs			
FEATURES	41AC	DSD8	DSE8	PCD8	PCE8
Description	Dedicated operator station	PC based operator stations			
Display Type	10.4" TFT color VGA	12.1" TFT color LCD touch-screen XVGA	15" TFT color LCD touch-screen XVGA	12.1" TFT color LCD touch-screen XVGA	15" TFT color LCD touch-screen XVGA
Pixel Size	640 x 480	1024 x 768	1024 x 768	1024 x 768	1024 x 768
Approvals	CE, cULus	CE, cTUVus in process	CE, cTUVus, IP54	CE, cTUVus in process	CE, cTUVus, IP54
Host Comms	RS485 MACOnet	Modbus Plus, Modbus TCP/IP			
Options	✗	✗	Swing arm pushbutton enclosure	✗	✗

Machine Control and PAC

PAC System Hardware	Eycon™ Visual Supervisor		PAC		OPtima Touch	
FEATURES	Eycon 10	Eycon 20	T2750	T2550	OPtima Intouch PC	
Display Type	5.5" QVGA	12.1" XGA	Remote		12.1" XVGA	15" XVGA
IP Rating	IP65		IP20		IP65	
Input Type	Remote		mV, V, mA, T/C, RTD, Potentiometer		Remote	
Analogue IP/OP	Remote		In: 64 Out: 32		✘	
Digital IP/OP	Remote		In/Out: 256	In/Out: 128	✘	
SP Programmer	8 Channels, 40 Segments each		8 Channels, 32 Segments each		✘	
Batch	✓		✓		✘	
Recipe	✓		✓		✘	
Auditor Features	✓		✘		✘	
Control	✓		✓		✘	
Data Logging	✓		✓		✘	
Ethernet (ELIN)	10/100Mbps		10/100Mbps		10/100Mbps	
Modbus (Serial & TCP)	Master/Slave		Master/Slave		✓	
Profibus	Master		✘	Slave	✘	
Network Addressing	DHCP, Boot P, Link Local, Fixed		DHCP, Boot P, Link Local, Fixed		✓	

PAC Software

Configuration Tools

Project Studio/ Developer

Network Support & I/O Drivers

OPC Server

Visualisation Packages

Process Viewer

Operations Server

Operations Viewer

Data Reporting & Manipulation

Dream Report™ Software

Information Manager

Wonderware ActiveFactory™

Applications

Security Manager

Control Modules

Application Modules

I/O Signal Conditioning, Probes, Thermosensors and Actuators

I/O Signal Conditioning

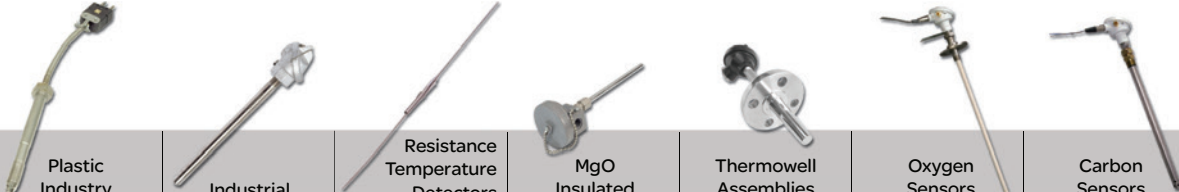|	Action Instruments						Eclipse Series
FEATURES	Ultra SlimPak II – High Accuracy & Ethernet ready	UltraSlimPak – Basic, Low Cost	Action I/Q (AC/DC Powered)	Action I/Q (Loop Powered)	OmniSLIM	TransPak	AC Transducers
Input Types	DC Volts/Current, RTD, mV, Thermocouple, Potentiometer, Strain Gauge, AC Volts/Current, Frequency	DC Volts/Current, RTD, mV, Thermocouple, Potentiometer, Strain Gauge, AC Volts/Current, Frequency	DC Volts/Current, RTD, mV, Thermocouple, Potentiometer, Strain Gauge, AC Volts/Current, Frequency	DC Volts/Current, RTD, mV, Thermocouple	DC Volts/Current, RTD, Thermocouple	DC Volts/Current, RTD, mV Thermocouple, Potentiometer, AC Volts/Current, Frequency	AC Power, AC Current, AC Voltage, AC Frequency, Phase Angle, Potentiometer/ Tap Position
Output Types	0-10V dc, 0-20mA dc, 4-20mA dc or 2 SPDT relays	0-5V dc, 0-10V dc, 0-1mA dc, 0-20mA dc, 4-20mA dc or 2 SPDT relays	0-5V dc, 0-10V dc, 0-1mA dc, 0-20mA dc, 4-20mA dc or Frequency, or 2 SPDT relay(s)	4-20mA dc	0-20mA 4-20mA dc 0.5V dc*	4-20mA dc	0-1mA, 0-10mA, 0-20mA, 4-20mA, 0-10V plus others
Isolation	1800V Input/Output/ Power	1800V Input/Output/ Power	1800V Input/Output/ Power	1800V Input/Output and channel/channel	2500V Input/Output and channel/channel	Varies with product	2kV to IEC414
Power	9-30V dc via Terminals or jumpers	9-30V dc G448 18-30V	85-265V ac Various power Product dependant 9-30V dc, 18-30V dc 10.8-26.4V dc	10-35V ac	Loop or 16.8 to 31.2V dc	Varies by Model	Varies by Model
Mounting	High density DIN rail	High density DIN rail	IQRL power bus on DIN rail	DIN rail	DIN rail	Field mount housing or head or DIN rail	DIN rail
Wiring	Removable terminals	Fixed terminals	Fixed terminals	Fixed terminals	Fixed terminals	Fixed terminals	Fixed terminals
Special Features	Smart power, Ethernet communications	ASIC reliability	2 ch versions, Signal splitters, Math functions, Field configurable I/P type versions	Multi channel versions	Splitter, Isolation Linearisation	Optional display, HART, 2 I/P channels with math	Stand alone 4kV isolation (option)
Calibration via	TouchCal	Potentiometer, G478 TouchCal	TouchCal	Potentiometer	Lifetime cal	Potentiometer or software	✗

Probes Thermosensors Ancillary (Other)

	Probes		Thermosensors	Ancillary	
FEATURES	In-Situ Carbon Probe – AP1	ACP Carbon Probe	Thermocouple & Resistance Thermometers (RTDs)	Memocal CERTO	Universal Isolated Interface Converter – KD485
Output	1.00-2.00V dc	0 to 1250mV dc	✗	mA, V, TC, RTD	✗
Readout	% carbon probe into 8MΩ	0.01 to 1.6 % Carbon % oxygen *	✗	Large multifunction LCD	✗
Power Supply	✗	✗	✗	Battery	+7 - +35V dc
Power Consumption	✗	✗	✗	✗	✗
Accuracy	±0.05 weight % carbon in normal operating range	+/-0.05 weight % carbon in normal operating range	✗	±0.01% of rdg	✗
Response Time	Less than 1.0 second	Less than 1.0 second	✗	✗	✗
Thermocouple	Type K, R & S	Type K, N, R, S	General purpose	Type B, E, J, K, L, N, R, S, T, U, W, W3, W5, PLII	✗
Isolation	✗	✗	✗	✗	2000V ac
Ports	✗	✗	✗	Full bidirectional RS232	2 Asynchronous ports, TX & RX signals only
Port Parameters	✗	✗	✗	Remote programming Data recording	-STD: 0-115200 baud, all character formats -ADE/PROG: 30-115200 baud, n/e/o/ parity,7/8 data bits, 1/2 stop bits
Mounting	✗	✗	✗	Hand held	DIN Rail
Options	✗	Quick Disconnect Connectors available for Eurotherm, FCC and MMI probes	Sensor fittings, Connectors, Wires and cables	EIA232 comms Desk top adapter (with EIA485 comms)	Interface: Standard product Port 1 is RS232 Port 2 is RS422/485 Any combination of RS232, 422/485

* Sensors should be used with controlling, recording and indicating instruments having an input impedance of 10 meg ohms or higher.

EA Series

Valve Actuators

FEATURES	EA01/EA02	EA12	EA20 Series	EA31	EA40 Series	EA50 Series	EA60 Series	EA70 Series
Output Types	24V ac 50-60Hz 120V ac 50-60Hz 240V ac 50-60Hz	24V ac 60Hz 120V ac 60Hz 240V ac 60Hz	120V ac 60Hz 240V ac 60Hz 240V ac 50Hz	24V ac 60Hz 120V ac 60Hz 240V ac 60Hz	120V ac 60Hz 240V ac 60Hz 240V ac 50Hz	24V ac 60Hz 120V dc 60Hz 120V ac 50Hz 240V ac 60Hz 240V ac 50Hz	120V ac 50-60Hz	120V ac 60Hz 120V ac 50Hz
4-20mA Input	Selected Models	No	Optional	No	Optional	Optional	Optional	Optional
Auxiliary Switches	No	1 Optional	1 Standard additional 2 or 4 switches optional	1 Standard additional 2 or 4 switches optional	1 Standard additional 2 or 4 switches optional	1 Standard additional 2 or 4 switches optional	1 Standard additional 2 or 4 switches optional	1 Standard additional 2 or 4 switches optional
Position Signal	No	No	Potentiometer optional	Potentiometer optional	Potentiometer optional	Potentiometer optional	Potentiometer optional	Potentiometer optional
90° Stroke	✓	✗	✓	✗	✓	✓	✓	✓
180° Stroke	✗	✓	✓	✗	✓	✓	✓	✓
360° Stroke	✗	✗	✗	✓	✗	✗	✗	✗
Linear Stroke	✗	✗	✗	✗	✗	✗	✗	✗
Torque	150-300lb-in	60lb-in	50lb-in	220lb-in	50lb-in	60-220lb-in	450lb-in	550-1300lb-in
NEMA Rating	NEMA 4	NEMA 1	NEMA 4 (Selected Models)	NEMA 4 (Selected Models)	NEMA 3 (Selected Models)	NEMA 4 (Selected Models)	NEMA 4 (Selected Models)	NEMA 4 (Selected Models)
UL Listed	✓	✓	✓	✓	✓	✓	✗	✓
CUL or CSA	✓	✓	✓	✓	✓	✓	✗	✓
CE	Selected Models	✗	✗	✗	✗	✗	✗	✗

Sensors

FEATURES	Plastic Industry	Industrial	Resistance Temperature Detectors	MgO Insulated	Thermowell Assemblies	Oxygen Sensors	Carbon Sensors
Input Types	Thermocouple RTD Type J, K, E, T PT100 (.00385) JIS (.00391)	Thermocouple Type J, K, E, T, R, S, B	RTD PT100 (.00385) JIS (.00391)	Thermocouple Type J, K, E, T, S	Thermocouple RTD Type J, K, E, T PT100 (.00385) JIS (.00391)	O2 Cell plus Thermocouple Type R, S, B Zirconia	O2 Cell plus Thermocouple Type K, R, S Zirconia
Sheath or Protection Tube	304 S.S.	Steel pipe, 304 S.S., 316 S.S., Inconel, Cast iron, Silicon carbide, Mulite, Alumina, Others	304 S.S., 316 S.S., Inconel	304 S.S., 316 S.S., Inconel	304 S.S., 316 S.S., C-1018 Steel, Brass, Others	Alumina	3/4" NPT Schedule RA 330
Mounting Fitting	Bayonet fitting, Compression fitting	Welding bushing, Flange, Sleeve, Double-ended bushing	Compression fitting double-ended bushing, Spring loaded double-ended bushing	Compression fitting double-ended bushing, Spring loaded double-ended bushing	Male NPT threads, Weld in, Flange	Sliding flange 1" NPT, Compression fitting	Sliding flange 1" NPT, Compression fitting
Insulation	Fiberglass	Ceramic	Teflon, Fiberglass	Magnesium oxide	Ceramic, Magnesium oxide, Teflon, Fiberglass	Alumina	Alumina
Transmitter Available	✗	✗	✓	✓	✓	✗	✗
Termination	Stripped leads, Spade terminals, Plug, Jack, Plug and jack	Cast iron head, Aluminum head, Explosion proof head	Stripped leads, Spade terminals, Plug, Jack, Plug and jack Cast iron head, Aluminum head, Explosion proof head	Stripped leads, Spade terminals, Plug, Jack, Plug and jack Cast iron head, Aluminum head, Explosion proof head	Cast iron head, Aluminum head, Explosion proof head	Aluminum head	Aluminum head

Service and Support (check region for availability)

Accredited Services (AMS2750, *ISO17025)

- Calibration: *Electrical, *Pressure, *Time,*Temperature and Humidity
- Thermal Uniformity Surveys: Ovens, Furnaces, Freezers, Chambers
- System Accuracy tests
- Thermal Imaging

Engineering Services

- Custom engineered solutions
- Custom design, configuration and implementation of bespoke systems

Repair and Support Services

- Repair option

  Premium: 24Hr from receipt of module

  Express: 3 working days from receipt of module when booked via www.eurotherm.co.uk/services

  Standard: 5 Working days from receipt of module
- Upgrades, calibration, refurbished equipment for sale

Installation and Commissioning

- Complete installation and commissioning of discrete instrumentation to large DCS systems
- Loop tuning and optimisation

Validation Services (GAMP)

- Complete Validaton to GAMP®5 Guidelines
- Services to produce documentation for validation include:
  - User Requirements, Functional Specification and Design Specifications
  - System Build
  - Installation, Operational and Performance qualifications
- Services to maintain the validated state including:
  - Calibration
  - Like for like parts management to minimise re-validation effort
  - Controlled installation of patches and upgrades
  - System operation and administration
  - Backup and disaster recovery solutions
  - Training for system operators and administrators

Technical Services

- Free telephone support via our dedicated help desk
- Extended Warranty
- Service Contracts
  - Breakdown: 24Hr cover 7 days a week with guaranteed response to site
  - Parts management, included bonded spares placed on site
  - Preventative Maintenance and health checks
  - Remote Diagnostic Support
  - Disaster Recovery Backups and Recovery
  - Software and application support

Training

- Formal classroom based including bespoke courses
- Informal hands-on "question & answer" at customer's site

eos

Eurotherm Online Services

Eurotherm Online Services (EOS) a trusted solution, for anywhere – anytime management and access to plant information. Specifically designed for industry it combines storage, workflow, access, and visualisation of critical data in one place. Ideal for industries such as Aerospace, Automotive, Life Sciences, Health Care and Food & Beverage, the tools combine the in-depth knowledge Eurotherm has on managing data, technology and calibration services with our own dedicated offsite storage facility offering secure and efficient web access. EOS is completely scalable and relevant to small scale manufacturing and large, multi-site businesses.

EOS Director

EOS Director is a lot more than secure, access anywhere file storage. It is specifically designed for a plant, batch and time centric view of your process data. Historical process data can be searched, visualised and if necessary retrieved from this secure back up facility faster than ever before. It provides effective management of data generated by recording devices, in particular the secure, UHH files generated by Eurotherm products.

EOS Advisor

EOS Advisor is a unique, online solution for managing calibration and accreditation information and is the future for managing a plant's regulatory status. Calibration status of all your plant's equipment can be checked using a simple, intuitive web interface. Information such as calibration certificates can be quickly retrieved as and when required by authorised users. It enables you to easily maximise plant availability and ensure compliance with regulatory standards such as Nadcap, AMS2750 and CQI-9.

ecat.

Eurotherm Calibration Administration Tool

Eurotherm offers professional services supported by leading industry expertise and is recognised in the market place for its comprehensive, high quality, responsive offerings. In the same way we develop our products to deliver leading, innovative solutions, it makes sense that we develop our services in the same way.

eCAT is a unique new tool for service engineers carrying out on-site calibration. Combined with EOS (Eurotherm Online Services), it shows Eurotherm leading the way in driving best operational efficiencies for its customers. It revolutionises the calibration process, significantly increases its efficiency and reduces the risk of human error – ensuring production quality and plant accreditation status is maintained.

The new tool has been reviewed and approved by UKAS (United Kingdom Accreditation Service) and has received very positive feedback from them.

Calibration Services

eCAT replaces outdated paper systems and reduces the time taken to get calibration certificates. In combination with EOS, certifcates are made available on the day of calibration.

- Unique, automated calibration tool
    - Validates data as it is entered
    - Reduces risk of human error
- Significantly higher efficiency for calibration services
    - Service engineer can publish calibration certificates on the day of calibration