Life Is On

Eurotherm
by Schneider Electric

Eurotherm

Product Selection Guide
and Systems Solutions, Services & Support

eurotherm.com

Life Is On

everywhere, for everyone, and at every moment

At Eurotherm we passionately support our customers with specialist knowledge and experience to help achieve process excellence through machine automation efficiency and regulatory compliance.

Our vision is to be the preferred supplier of machine automation products, applications, power and process control systems and services for customers in specialist industries, while our mission is to solve our customers' problems with pioneering products, bespoke systems and industry expertise.

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 helping to keep data protected 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 program so that our solutions continually grow to meet 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.

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PID Controllers, Indicators and Alarm Units

	Discrete Panel Mount Controllers													
Single Loop														
	2000 Series							**3000 Series**				**EPC3000**		
Features	2132	2216e	2208e	2204e	2416	2408	2404	3216	3208	32h8	3204	EPC3016	EPC3008	EPC3004
Panel size (DIN)	1/32	1/16 DIN rail	1/8	1/4	1/6	1/8	1/4	1/16	1/8	1/8	1/4	1/16	1/8	1/4
IP Rating	IP65	IP65			IP65			IP65, NEMA 12				WD: IP66, NEMA4x (Indoor Use) ST: IP66, NEMA12		
Display Type	1 x 4 digit LED	2 x 4 digit LED			2 x 4 digit LED			Main: 4 digits Lower: 5 character starburst (3216/08/04) 19 character starburst (32h8)				High Visibility LCD three color multifunction display 3008/3004 4.5,5 Digit PV, 2 starburst 3016 4 Digit PV, 1 starburst		
Supply Voltage	24V dc/ac 85-264V ac	85-264/ac			24V dc/ac 85-264V ac			24V dc/ac 85-264V ac				24Vdc/ac 85-264V ac		
Safety Approvals	—	—			—			EN 14597 TR, FM				EN14597 TR (Pending) Achilles CRT Level 1 Cybersecurity		
Input Type	TC, RTD, mV, mA, V	TC, RTD, mV., mA, Volts			TC, RTD, mV, mA, Volts			TC, RTD, mV, mA, CT				TC, PT100/PT1000 RTD, mA, mV, Zirconia.		
PV Accuracy	<0.25%	<0.25%			<0.2%			<0.25%				<0.1% low thermal drift		
Control Types	On/Off, PID	On/Off. PID			On/Off. PID			On/Off, PID, VP				On/Off, PID, VP, Carbon Potential		
Special Features	—	—			Dual input control			Recipes, Text messaging				Dual Input Control, Atmosphere Control, Recipes, Text Messaging, Application Templates, Gain Scheduling, Native Ethernet		
SP Programmer	—	—			20 x 16 Segments			4 Ramp + 4 Dwell				Up to 10x24 segments		
Analog IP/O	In: 1 Out: 0	In: 1 Out: 1			In: 2 Out: 3			In: 2 Out: 3				In 4, Out 3 3008/3004: 2PV, 1CT, 3 Isolated DC OP 3016: 1PV, 1CT, 1 Aux (RSP), 2 Isolated DC OP		
Digital IP/OP	In: 1 Out: 2	In: 3 Out: 4			In: 11 Out:11			In: 3 Out: 4				In 5, Out 4 8 (max) Open Collector DIO 3008/3004		
Digital Comms	—	Modbus, DeviceNet			Modbus, DeviceNet, Profibus			Modbus				Modbus RTU. Modbus/TCP Ethernet		
User Wiring	—	—			—			—				✓		
Alarm Types	Hi, Lo, Dev, Sensor break	—			—			Hi, Lo, Dev, Heater fail, Sensor break, Event				Hi, Lo, Dev, Sensor fault, Heater fail, Rate of Change, Event		

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PID Controllers, Indicators and Alarm Units

	Recorder/ Controller	Discrete Panel Mount Controllers				Modular DIN Mount Controller
Advanced and Multi Loop						
Features	**nanodac™**	**3000 Series**		**2000 Series**		**Mini8™**
		3508	**3504**	**2604**	**2704**	
Panel size (DIN)	1/4	1/8	1/4	1/4		DIN rail
IP Rating	IP65, NEMA 12	IP65, NEMA 12		IP65		IP20
Display Type	35" TFT color, 320 x 240 pixels	Main PV: 4 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, Volts	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, Ratio		Single, User wired
Special Features	Temperature/Humidity, Cascade Autotune, Carbon Potential, Recipes, Gain Scheduling, Master Comms, Native Ethernet	Temperature/Humidity, Carbon Potential, Recipes, Gain Scheduling, Master Comms		Carbon Potential, Humidity, Melt Pressure, Master Comms	Carbon Potential, Humidity, Melt Pressure, Vacuum	Temperature/Humidity Control, Load Diagnostics, Gain Scheduling
SP Programmer	100 Programs, 25 Segments Local/ USB/FP	50 Programs 500 Segments max		50 Programs 500 Segments max	60 Programs 600 Segments max	8 Programs 16 Segments each
Analog 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 EtherCAT, EtherNet/IP Server
User Wiring	✓	✓		✓	✓	✓
Alarm Types	Hi, Lo, Dev,	Hi, Lo, Dev, Heater fail, Sensor break, Event		Hi, Lo, Dev, Heater fail, Event, Rate of Change		Hi, Lo, Dev, Heater fail, Sensor break, Event

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PIC Controllers, Indicators and Alarm Units

Indicators and Alarm Units	Discrete Panel Mount Controllers				
	2000 Series	3000 Series			2000 Series
Features	**2132i**	**3216i**	**32h8i**	**3204i**	**2408i**
Panel size (DIN)	1/32	1/16	1/8	1/4	1/8
IP Rating	IP65	IP65 NEMA 12	IP65 NEMA 12	P65 NEMA 12	IP65
Display Type	4 Digit LED	4 Digit LED plus 5 character alphanumeric	5 Digit LED plus 9 character alphanumeric	4 Digit LED plus 5 character alphanumeric	Large 5 Digit LED
Supply Voltage	24V dc/ac 85-264 V 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		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	In:1 Out: 2	In: 2 Out: 0	In: 2 Out: 0	In: 2 Out: 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 R	Modbus RTU	Modbus RTU, DeviceNet, Profibus DP
Melt Pressure	—	—	✓	—	✓
Transducer PSU	—	—	10V dc	—	5/10V dc
Transmitter PSU	—	—	24V dc	24V dc	24V dc

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PIC Controllers, Indicators and Alarm Units

Plastics Process Control	Melt Pressure Controller	Melt Pressure Indicator
	piccolo™	
Features	**P304C**	**P304I**
Panel size (DIN)	1/4	1/4
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	✓	✓
Analog 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

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Recorders and Data Acquisition

Paperless/ Graphic	Paperless Graphic Recorders						Portable TUS Recorders		Recorder / Controller	Scalable Recorder
6000 Series										
Features	**6100A**	**6180A**	**6100XIO**	**6180XIO**	**6180AeroDAQ**	**6100E**	**6100A**	**6180A**	**nanodac™**	**versadac™**
Inputs	18	48	—	—	48	6	15	30	4	128 and 256 Dig
Graphic Display	5.5"	12.1"	5.5"	12.1"	12.1"	5.5"	5.5"	12.1"	3.5"	—
Protection	IP66		IP66		IP66	IP66	IP66	IP66	IP65 NEMA12	IP21
Relay Outputs	✓		—		✓	✓	—	—	✓	✓
Annotation	✓		✓		✓	✓	✓	✓	✓	✓
Contact Inputs	✓		—		✓	—	—	—	✓	✓
Communications	Modbus TCP/RTU Master & Slave, EtherNet/IP Server					Modbus TCP Slave	Modbus TCP/RTU Master & Slave, EtherNet/IP Server		Modbus TCP/RTU Master & Slave, EtherNet/IP Client/Server	
Mathematics, Counters, Timers, Totalisers, PC Configuration, Ethernet/FTP	✓		✓		✓	✓	✓	✓	✓	✓
Auditor Features	✓		✓		✓	—	✓	✓	✓	✓
Batch	✓		✓		✓	—	✓	✓	✓	✓
Custom Screens	✓		✓		✓	—	✓	✓	—	—
Remote Viewing	✓		✓		✓	✓	✓	✓	✓	✓
Recording Speed	8Hz		8Hz		8Hz	1Hz	8Hz	8Hz	8Hz	8Hz
Trend Speed	8Hz		8Hz		8Hz	1Hz	8Hz	8Hz	8Hz	8Hz
Network Addressing	DCHP, Boot P, Fixed IP						DCHP, Boot P, Fixed IP		DHCP, Fixed IP	
USB	3		1		3	1	3	3	1	1
Reports	10		10		10	—	10	10	—	10
Groups	12		12		12	1	12	12	1	30
Review of History (screen)	✓		✓		✓	✓	✓	✓	✓	—
AMS2750E	✓		✓		✓	—	✓	✓	✓	✓

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Solid State Relays (SSRs) and Power Controllers

Solid State Relays (SSRs) and Simple Thyristor Controller	Solid State Relays	DIN Rail Solid State Relays			Solid State Slim Relays		Simple Thyristor Controller
Features	**ZELIO™ SSP1**	**ZELIO™ SSM1**	**ZELIO™ SSP3**	**ZELIO™ SSM3**	**ZELIO™ SSLM Input Module**	**ZELIO™ SSLM Output Module**	**ESwitch**
Heater Type : Constant Resistance	✓		✓	✓	✓	✓	✓
AC Output	✓	✓	✓	✓	✓	✓	✓
Maximum Current (Amps)	125A	55A	50A	25A	100mA	3A	50A
Maximum Voltage (Volts)	660V	660V	530V	600V	28V	60V dc/250V ac	500V
Integrated Heatsink	—	✓	—	✓	✓	✓	✓
Controlled Phases	1	1	3	3	1	1	1
dc Logic Input	✓	✓	✓	✓	✓	✓	✓
ac Logic Input	—	—	—	—	—	—	✓
Firing Mode Zero Crossing	✓	✓	✓	✓	✓	✓	✓
Partial Load Failure	—	—	—	—	—	—	✓
Alarms	—	—	—	—	—	—	✓
Compliance	CE UL CSA EAC	CE UL CSA EAC	CE UL CSA	CE UL CSA EAC	CE UL CSA	CE UL CSA	CE UL CSA EAC
Compliance to : EN60947-4-3	—	—	—	—	—	—	✓

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Power Controllers

Power Control	Single Phase	Single Phase	Two Phase	Three Phase	Multi Channel
Features	**EFit™**	**EPack™**	**EPack™**	**EPack™**	**EPower™ Controller**
Heater Type: Constant Resistance	✓	✓	✓	✓	✓
SWIR (Short wave infrared)	✓	✓	—	✓	✓
Variable Resistance	✓	✓	—	✓	✓
Inductive Transformer Coupled	✓	✓	✓	✓	✓
True Power Control	—	✓	✓	✓	50A
Maximum Voltage (Volts)	500V	500V	500V	500V	690V
Maximum Current (Amps)	50A	125A	125A	125A	Compact 50-630A Decentralized 800-4000A (MC)
Controlled Phases	1	1	2	3	1-4
Input Analog	✓	✓	✓	✓	✓
Logic	—	✓	✓	✓	✓
Firing Mode Phase Angle	✓	✓	—	✓	✓
Burst Firing	✓	✓	✓	✓	✓
PLF and / or PLU	—	✓	✓	✓	✓
Current Limit	✓	✓	—	✓	✓
Diagnostics	—	✓	✓	✓	✓
Alarms	—	✓	✓	✓	✓
Digital Communications	—	EtherNet/IP, Modbus TCP Profinet	EtherNet/IP Modbus TCP Profinet	EtherNet/IP Modbus TCP Profinet	Profibus, EtherNet/IP, CC-Link, DeviceNet, Modbus TCP, Profinet
Compliance	CE UL CSA EAC	CE UL CSA EAC	CE UL CSA EAC (pending)	CE UL CSA EAC (pending)	CE UL CSA EAC
Compliance EN60947-4-3	✓	✓	✓	✓	✓

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Machine and Process Automation Controllers

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

Programmable Logic Controllers	Compact PLC	Modular PLC
Features	**E+PLC100**	**E+PLC400**
Autotuning PID	✓	✓
Setpoint Programmer	✓	✓
Tamper Resistant Recording	✓	✓
Archiving Strategy	✓	✓
Batch Management	✓	✓
Programming Platform	CODESYS (open)	CODESYS (open)
Programming Languages	IEC61131-3 compliant CFC, FBD, IL, LD, SFC, ST	IEC61131-3 compliant CFC, FBD, IL, LD, SFC, ST
Product I/O Dependant on build variant	AI(4), AO(3), DI(2), DO(2), RLY(3)	Modules: A18*, AO2, D16, DI16, DO16, RLY8, ZI
I/O Expansion Method	Modbus	Modbus
Communications Protocols	FTP, Modbus, TCP/IP (Master/Slave) OPC-DA via PC based software	FTP, Modbus, TCP/IP (Master/Slave) Modbus Serial RTU (Master/Slave), EtherCAT*, OPC-DA via PC based software
Suitable for AMS2750E Process	✓	✓
Recording Duration (approx) Based on 4 chs at intervals at: 1s 10s 20s 60s	12.97 days 129.7 days 259.45 days 2.13 years	50.5 days 1.28 years 2.77 years 8.3 years
Panel HMI (Protocol)	Built in	E+HMI150 (OPC-DA)
Web Visualization	✓	✓
Mounting	Panel	DIN

*Contact factory for availability

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Eurotherm Product Software

Typical configuration, data reporting, analysis and visualization capability from Eurotherm, and open industry standard IEC61131-3 CODESYS® PLC platform for Eurotherm E+PLC controllers.
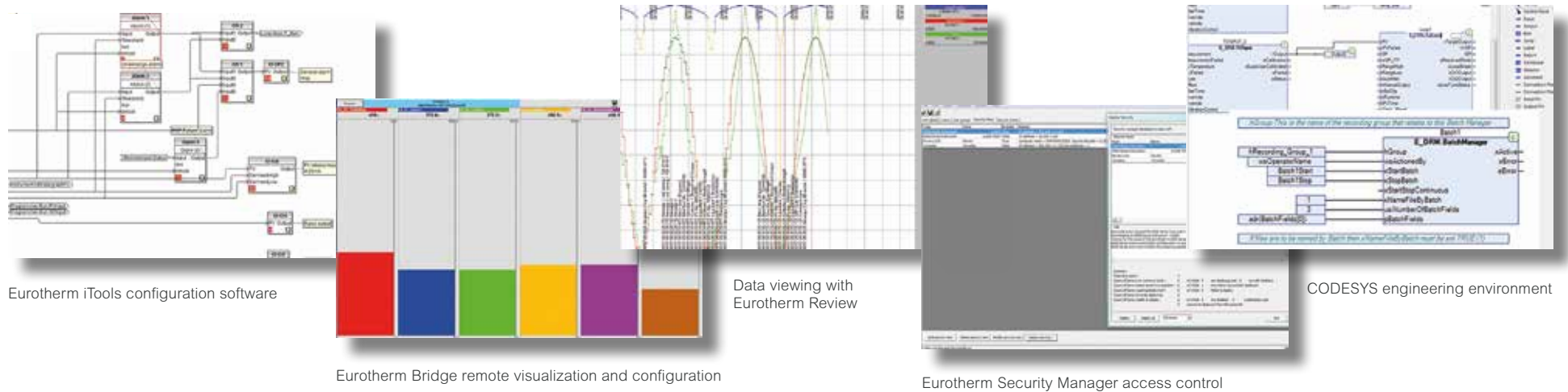
Eurotherm iTools configuration software

Eurotherm Bridge remote visualization and configuration

Data viewing with Eurotherm Review

Eurotherm Security Manager access control

CODESYS engineering environment

Configuration software

Eurotherm iTools

One versatile platform for configuration and monitoring of Eurotherm temperature and process controllers, power controllers and recorders.

A complete engineering studio for configuration, data logging, communication and monitoring.

6000 Series software

Eurotherm Bridge

A powerful yet easy to use tool providing visualization and configuration to any Eurotherm 6000 series instrument from any PC anywhere in the world.

With the correct security access, the user can view any number of networked devices using the Local Area Network, intranet or internet.

Data Viewing/Reporting

Eurotherm Review

PC based software package that allows the display and printing of archived data files from the Eurotherm range of data acquisition units.

Access Control

Security Manager

A common tool across multiple ranges.

Configures:
- 6000 Series Recorder
- Eycon Visual Supervisor
- Operations Viewer
- Eurotherm Review

Combination PLC software

CODESYS®

Eurotherm E+PLC range uses open industry standard IEC61131-3 CODESYS® PLC platform. This enables simplified engineering through a single integrated programming and visualization development environment which also offers OEM customization and user level access to help protect engineering IP.

For more information and downloads go to your local Eurotherm website >software

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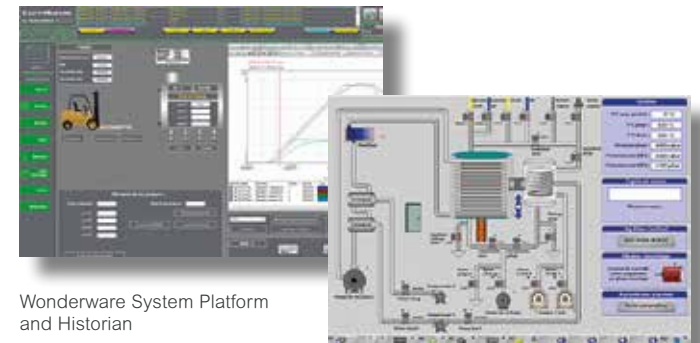Life Is On | Eurotherm by Schneider Electric

Eurotherm System Software

Everyone talks about connecting the enterprise. Eurotherm® and Wonderware® have been doing it for years with a versatile suite of software tools including Wonderware System Platform and Wonderware PAC software built into our systems which offer:

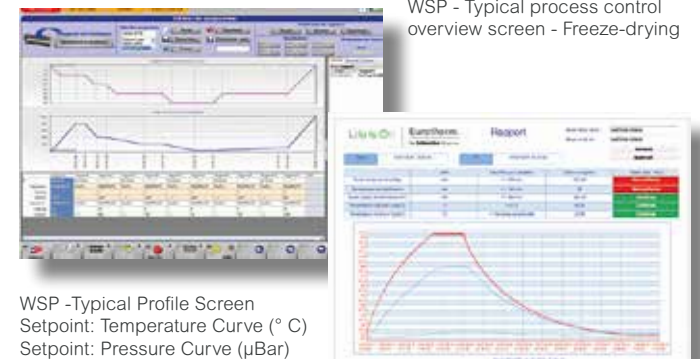| Configuration tools	Visualization Packages	
Project Studio / Developer • Engineering tools for process automation • Single point configuration • Integrated development environment	**Process Viewer** • Low cost HMI • Use of iTools Active-X to visualize Eurotherm controllers • Contains iTools and EuroMBUS OPC server environment • LINtools and LIN OPC Server	**Operation Server and Viewer** • Comprehensive user authorization and tamper resistance via Security Manager • Supports Ethernet, ARCnet and serial connections • Auditor features meet 21 CFR Part 11

• Reduced engineering effort with autobuild and single project environment

• Powerful graphic tools

• Instant access to data from your plant with online monitoring from any node

• OPC standards inbuilt to I/O drivers

• Built in Security Manager – without making operation and procedures cumbersome

• Built in technologies to meet requirements such as FDA 21 CFR Part 11 and AMS2750E

Data Reporting		
Information Manager Provides system connectivity between the Eurotherm control network and the enterprise. • Captures and stores all plant data all of the time • Includes Wonderware Historian software • Obtains data from our UHH with our Store & Forward functionality	**Wonderware Historian client** Trending and analysis software provides plant data analysis and reporting solutions for Information Manager - giving better managed plant performance.	**Dream Report™** Integrated reporting solution for industrial automation. Designed to extract data from almost any data source and automatically provide reports to anybody anywhere. Dream Report fits perfectly for both continuous and batch process applications.

Wonderware System Platform and Historian

WSP - Typical process control overview screen - Freeze-drying

Network support	Applications	
OPC Servers and I/O Drivers for: • Single point configuration Modbus devices / I/O drivers • LIN devices • Wonderware SuiteLink™ protocol • Includes advanced communication diagnostic and monitoring tools. • WWPAC is provided to enable integrationof PAC instruments into Wonderware System Platform • Intellution FIX32 and iFIX	**Security Manager** A common security tool across multiple ranges. Configures: • 6000 Series Recorder • Eycon Visual Supervisor • Operations Viewer • Eurotherm Review	**Eurotherm Control and Application Modules** • Standard supervisory workstation interface • Standard library blocks • Operator faceplate • Engineer point display

WSP -Typical Profile Screen
Setpoint: Temperature Curve (° C)
Setpoint: Pressure Curve (µBar)

Typical Eurotherm Dream Report. Phases of heat/cool, temperature and setpoint analysis.

For more information and downloads go to your local Eurotherm website > software

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Signal Conditioners

I/O Signal Conditioners	Signal Conversion and Isolation						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, Thermocouple, Potentiometer, Strain Gauge, AC Volts/Current Frequency	DC Volts/Current, RTD, Thermocouple, Potentiometer, Strain Gauge, AC Volts/Current Frequency	DC Volts/Current, RTD, Thermocouple, Potentiometer, Strain Gauge, AC Volts/Current Frequency	DC Volts/Current, RTD, mV, Thermocouple	DC Volts/Current, RTD, mV, Thermocouple	DC Volts/ Current, RTD, mV, Thermocouple, Potentiometer, 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	-5 to +5 dc, -10 to +10Vdc 0-1mA dc, 0-20mA dc, 4-20mA dc or Frequency or 2 SPDT relay(s)	4-20mA dc 0-20mA dc	0-20mA 4-20mA dc 0.5V dc	1-20mA dc 4-20mAa dc 10-50mA dc	0-1mA, 0-10mA, 0-20mA20mA 0-10V plus others
Isolation	1800VDC Input/Output Power	1800VDC Input/Output Power	1800VDC Input/Output Power	1800VDC Input/Output Power & channel/channel	2500V Input/Output Power & channel/channel	1800 VDC 600 VDC Varies with product	2kV to IEC414
Power	9-30V dc via Terminals or jumpers	9-30V dc G448 18-30V (For DC Modules)	85-265V ac Various Power Product dependant 9-30V dc, 18-30V dc (Q448) 10.8-26.4V dc (Q404)	N/A	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 or DIN rail both AC DC	DIN rail	DIN rail	Field mount housing or head or DIN rail	DIN rail
Wiring	Removable terminals	Fixed terminals	Removable terminals	Removable 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	—

Signal Conditioners .... continued

I/O Signal Conditioners	
Features	**Action Pak AP**
Input Types	DC/Current, RTD, Thermocouple, Potentiometer, Strain Gauge, AC Volts/Current Frequency
Output Types	-5+5Vdc, -10+10Vdc, 0-20mAdc 4-20mAdc, 2 SPDT realys
Isolation	1000-1500Vdc Input/Output/Power
Power	120-240Vac via Terminals, 9-30Vdc (Optional)
Mounting	Plug-in-8-Pin or 11-Pin Base Socket, High Density DIN rail
Wiring	Fixed terminals
Special Features	Frequency divider, DC to Frequency conversation
Calibration via	Potentiometer

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Ancillary Equipment

	Probes	Comms Convertors		Field Calibrators	Multifunction Temperature Calibrator
Probes and Communication Devices					

Features	In-Situ Carbon Probe AP1	ACP Carbon Probe	Universal Isolated Interface Converter - KD485	Features	Memocal 2000
Output	1.00-2.00V dc	0 to 1250mV dc	—	**24V Loop Power Supply**	✔
Readout	% carbon probe into 8MΩ	0.01 to 1.6 % carbon % oxygen *	—	**Accuracy**	±0.015% of span
Power Supply	—	—	+7 - +35V dc	**Calibration Software**	—
Power Consumption	—	—	—	**Input/Output Type**	15 type TC - 2 type RTD - mV - Ma Ohms
Accuracy	±0.05 weight % carbon in normal operating range	+/-).05 weight % carbon in normal operating range	—	**Leather carrying case**	Option
Response Time	Less than 1.0 second	Less than 1.0 second	—	**Multi Channel Data Logging**	—
Thermocouple	Type K, R & S	Type K, N, R, S	—	**Power Supply**	External charge and rechargeable Ni Mh batteries
Isolation	—	—	2000V ac	**Programmable Ramp Generator**	✔
Ports	—	—	2 Asynchronous ports, TX & RX signals only	**Real Time Clock with Memory**	—
Port Parameters	—	—	-STD: 0-115200 baud, all character formats -ADE/PROG: 30-115200 baud, n/e/o parity, 7/8 data bits, 1/2 stop bits	**Serial Comm. Port**	EIA 232 Modbus
				Standard	Complies with AMS2750 field instrument
Mounting	—	—	DIN Rail	**Panel size (DIN)**	One channel IN/OUT
Options	—	Quick Disconnect Connectors available for Eurotherm, FCC and MMi probes	Interface: Standard product Port 1 is RS232 Port 2 is RS422/485 Any combination of RS232, 422/485	**Display Type**	Multifuncion LCD

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

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Actuators

Valve Assemblies and Components	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 50-60 Hz 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 ac 60Hz 120V ac 60Hz 240V ac 60Hz 240V ac 50Hz	120V ac 50-60Hz	120V ac 50Hz 120V ac 50Hz
4-20m A Input	Selected Models	No	Optional	No	Optional	Optional	Optinoal	Optional
Auxillary 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	NEMA4	NEMA1	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	—	—	—	—	—	—	—

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eos - Eurotherm Online Services

Seamlessly transform equipment data into useful, actionable, and auditable information

Eurotherm™ Online Services (EOS) by Schneider Electric™ is a trusted Software as a Service (SaaS) solution, for anywhere, anytime management and access to plant information. 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. EOS is completely scalable; relevant to small scale manufacturing and large, multi-site businesses.

EOS Advisor

A unique online solution for managing equipment and staff more efficiently. One integrated system that helps you meet all your compliance requirements.

eCAT™ - Tablet application for calibration

Eurotherm offers professional services supported by leading industry expertise and is recognized 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.

The EOS tablet application for calibration (eCAT) is a mobile compatible tool that reduces the drawbacks of a paper based system and improves the consistency of the calibration process. Calibration status of all plant equipment can be checked

using a simple, intuitive web interface. Information such as calibration certificates can be quickly retrieved as and when required by authorized users. It enables customers to easily maximize plant availability and aids compliance with regulatory standards such as Nadcap, AMS2750 and CQI-9.

EOS Advisor applications leverage technology developed for Industrial Internet of Things and Industry 4.0 applications.

- Help increase equipment efficiency
- Establish robust universal workflow
- Help reduce risk of human error
- Simplify searches
- Help reduce operational costs

With the eCAT tool, an instrument test produces a certificate and QR label

Just scan the label for an instant view. Why not try it yourself?

These technologies improve cost efficiencies, enable predictive maintenance, and result in competitive advantage. Unlike many other technology solutions that require a "rip-and-replace" mentality - these solutions are a natural fit to an existing process setup and the technology easily wraps around current installations.

Check all scheduled activities easily on the EOS Advisor planning page.

Experience the advantages of EOS Advisor with a three-month trial.

Sign up now

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Systems and Solutions (available globally)

What can Eurotherm solutions do for you?

In a word, CONFIDENCE:

Confidence in our application knowledge
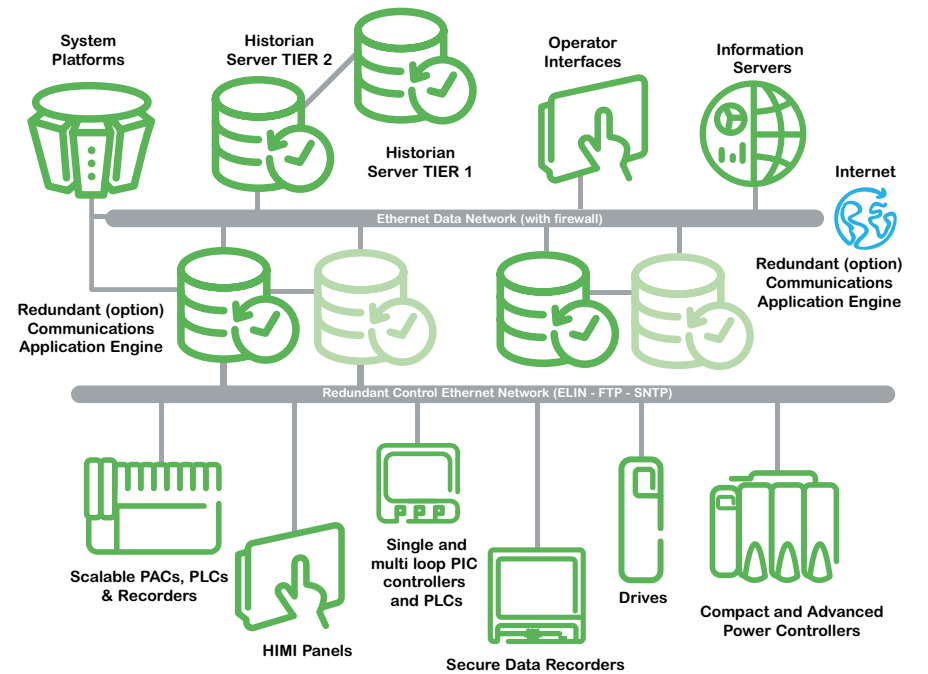
Confidence in our control products and systems capability

Confidence in optimizing value for money

We provide an expert team to work with your people in a successful partnership.

We know your application

Eurotherm has significant experience in machine control and process control across a broad range of markets. Based on our application specific expertise, we have numerous successful installations around the world. The more challenging your control problem, the more value we bring.

Our core competency is process control applications and this expertise is what separates us from the typical system integrator.

System Platforms — Historian Server TIER 2 — Historian Server TIER 1 — Operator Interfaces — Information Servers — Internet

Ethernet Data Network (with firewall)

Redundant (option) Communications Application Engine

Redundant (option) Communications Application Engine

Redundant Control Ethernet Network (ELIN - FTP - SNTP)

Scalable PACs, PLCs & Recorders — HIMI Panels — Single and multi loop PIC controllers and PLCs — Secure Data Recorders — Drives — Compact and Advanced Power Controllers

Thermal solution architecture

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Global Turnkey Capability

In addition to Eurotherm expertise in process and machine control products, we also have a broad range of experience and engineering services to implement a complete solution for your application.

These services include:

Engineering Services

- Custom engineered solutions
  - discrete instrumentation up to small and medium DCS systems
- Creating collaborative specifications
- System design
- System engineering
- Panel & cabinet building
- System Testing (SAT)
- Factory Acceptance Testing (FAT)
- On-site installation & wiring services

- System installation, commissioning & startup services
- Validation IQ, OQ, PQ
- Comprehensive project management
  (including GAMP®5 & 21 CFR Part 11 Methodologies)
- Complete project documentation
- Network analysis
- Custom reports
- Analytics

Process Optimization

Most businesses are driving down hard on costs and striving to improve performance. We can play a role in this process by bringing experienced engineers to your site, auditing the process and identifying possible improvements. Monitoring equipment can be installed to understand performance and costs, to create a baseline upon which the improvements can be measured. The solutions will range from simple enhancements, re-commissioning or possibly taking a completely fresh approach to the control solution. Typically, this work is completed when new projects are undertaken, but we believe that applying the experience of our engineers can improve the productivity plant at any time.

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Service and Support

Check region for availability.

Accreditation

- Calibration: electrical, pressure, time, temperature and humidity
- Thermal Uniformity Surveys: (TUS) ovens, furnaces, freezers, chambers and System Accuracy Tests (SAT)
- Thermal imaging

Technical Services

- Free telephone and web based support via dedicated help desk
- Extended warranties available
- Loop tuning and optimization
- Business continuity plans
- Service contracts
    - Breakdown: 24hr cover 7 days a week including response to site
    - Parts management, including bonded spares placed on site
    - Preventative maintenance and health checks
    - Remote diagnostic support
    - Backups and recovery
    - Software and application support
    - Bespoke Service Level Assessments (SLA)
    - Global Support

Eurotherm Online Services

- Software as a Service (SaaS) - see page | 18 for details

Validation Services (GAMP)

- Auditing and consultation
- Complete validation to GAMP®5 guidelines & 21 CFR Part 11 requirements
- 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 minimize revalidation effort
    - Controlled installation of patches and upgrades
    - System operation and administration
    - Backups and recovery solutions
    - Training for system operators and administrators

Repair and Support Services

- Repair option
- Premium: 24hr from receipt of module
- Express: 3 working days from receipt of module
- Standard: 5 Working days from receipt of module
- Upgrades, calibration, refurbished equipment for sale

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Training, Commissioning and Troubleshooting

Training

- Formal classroom based including bespoke courses

- Informal hands-on "question & answer" at customer's site

- Self-paced training modules

Commissioning and Troubleshooting

Our commissioning services include everything from configuring an instrument before it is shipped, though to on-site installation, troubleshooting startup and optimization. During this process your staff can be trained on the configuration and operator routine. Our engineers can work alone, or alongside your plant engineering staff to reduce costs and enable valuable knowledge transfer.

Refurbishing existing panels to upgrade the control and acquisition equipment is becoming increasingly popular. The Eurotherm engineer will take control of the complete project including panel and wiring modifications. This can provide a cost efficient method of gaining compliance to regulatory standards from ANSI, NADCAP and FDA.

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Request a demo from your local sales team