

# Technical Data ETAMATIC



Fig. 1-1 ETAMATIC

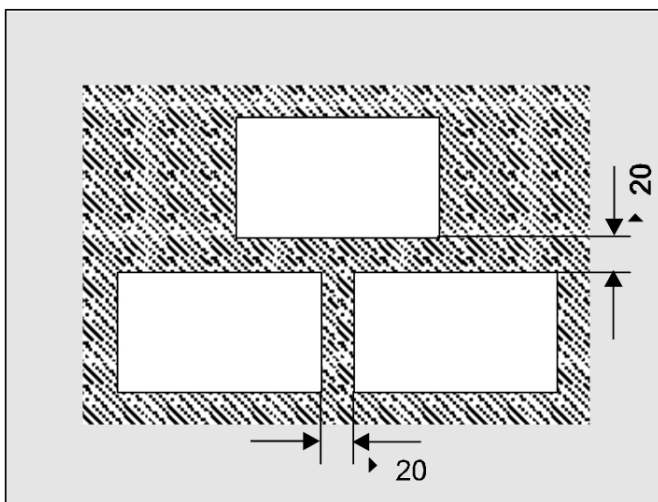


Fig. 1-2 Minimum distances in the case of several cut-outs

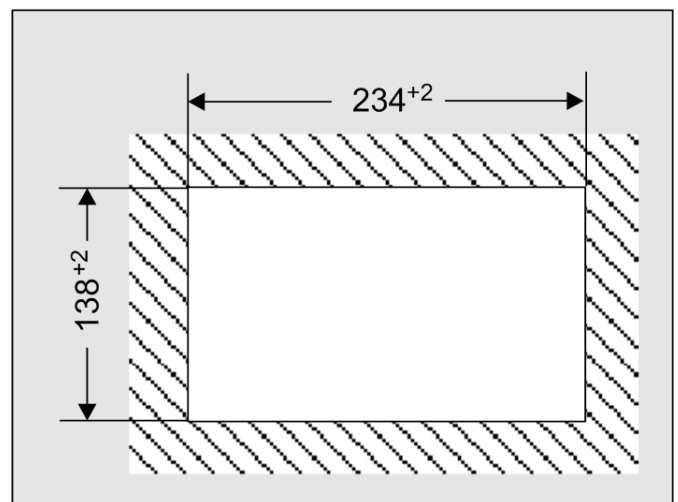


Fig. 1-3 Single cut-out

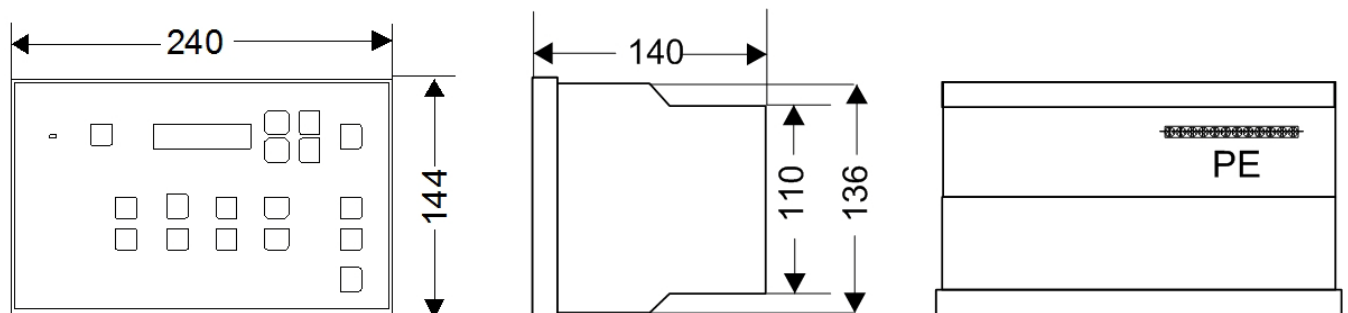


Fig. 1-4 views ETAMATIC

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### Dimensions

Dimensions (HxWxD)	144x240x142 mm/5.67"x9.45"x5.59" in
Installation depth	125 mm/4.92" in
Weight	2,3 kg/5.07 lb

### Input data

Power supply	from 115 V -15 % up to 230 V +10 % 50 or 60 Hz <b>To be used only in a grounded power line network!</b>
Power Consumption	approx. 50 VA

### Analogue outputs

Analogue outputs	16 analogue outputs 230 V 1 analogue output (ETAMATIC S)
Control outputs	4
Continuous output	Load: 4 ... 20 mA < 600 Ω

### Analogue inputs

Analogue inputs	3 analogue inputs (all non-floating)
Load	100 Ω
Feedback inputs	Feedback TPS (three point step) potentiometer 5 kΩ or current signal 0/4 ... 20 mA (ETAMATIC S channel 1). Option: Direct switching of NAMUR transmitter (ETAMATIC S)
Resolution each analogue input	999 digit, 10 bit
Three-point-step	Running time of the actuating drives: 30 s ... 60 s Possible servomotors: 6 Nm 60 sec. running time to 90° Type: 662R2127 19 Nm 60 sec. running time to 90° Type: 662R2111/N 30 Nm 60 sec. running time to 90° Type: 662R2112 40 Nm 60 sec. running time to 90° Type: 662R2121 Other servomotors only after approval by LAMTEC. Current consumption max. 50 mA continuous current/starting current

### Digital outputs

Digital outputs	Main gas 1, main gas 2, oil valve, ignition valve, ignition transformer, fan, oil pump, fault
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### Digital inputs

Digital inputs	14 digital inputs 24 V
Digital signal inputs	The parasitic capacitance of the lead connected to the digital inputs may not exceed 2.2 μF as a result of the ETAMATIC self-tests. The lead length should be limited to 100 m. Since the digital inputs are for 24VDC, suitable contacts for that voltage should be used (hard silver or goldplated).

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### Characteristics

Display	alphanumeric display, 2 rows with 16 digit each
Regular Firing Rate Input	<ul style="list-style-type: none"> <li>via internal burner-firing-rate controller actual value</li> <li>manual operating is possible via three-point step signal</li> <li>external burner-firing-rate controller (0/4 ... 20 mV)</li> </ul>
Storage of setpoint value and variable data	in EEPROM typically 20 digit, usually 11 with linear interpolation
Number of curve sets	2 (e.g. for oil/gas-combination burner)
Number of program cycles	unlimited
Specification of operating status	via internal control signal

### Interfaces

Interfaces	<ul style="list-style-type: none"> <li>1 serial interface on 25-pole Sub-D-connector, addressable via LAMTEC adapter only (Dongle 663P0600)(RS 232)</li> <li>1 interface on 9-pole Sub-D-connector</li> </ul>
Bus-connection	via 9-pole Sub-D-connectorBUS card optional for the following systems: <ul style="list-style-type: none"> <li>Interbus (Phoenix)</li> <li>CAN-Bus (CANopen)</li> <li>PROFIBUS DP</li> <li>Modbus RTU</li> <li>Ethernet</li> </ul>

### Operating condition

Ambient temperature	Operation: 0 °C ... +60 °C/32 °F ... +140 °F Transport and storage: -25 °C ... +60 °C/-13 °F ... +140 °F
Permissible Ambient Humidity	Class F, DIN 40 040
Protection Class	IP54 (with sealing against cabinet door), otherwise IP20

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## Order Information

<b>663R1-</b>	<b>A10</b> FLAME MONITORING	<b>A20</b> CONTROL BY ATMOS. CONDITION, STANDBY- OPERATION	<b>A30</b> CONTROL OUTPUTS, POS. FEEDBACK	<b>A35</b> CO/O2- CONTROL	<b>A40</b> CUSTOMER LOGO	<b>A50</b> CONNECTOR SET	<b>A60</b> OUTPUT FAULTRELAY	<b>A70</b> OPTIONS	<b>A80</b> SPECIAL CONFIGU- RATION
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### A10 - FLAME MONITORING

	Selection
EXTERNAL FLAME MONITORING VIA DIGITAL INPUT	0
INTEGRATED FLAME MONITORING for power frequency 50 Hz Additional required: Flame sensor FFS07, order no. 659D21 Flame sensor FFS08, order no. 659D31, as well as corresponding bracket	1
INTEGRIERTE FLAMMENÜBERWACHUNG for power frequency 60 HZ Additional required: Flame sensor FFS07, order no. 659D21 Flame sensor FFS08, order no. 659D31, as well as corresponding bracket	2

### A 20 – CONTROL BY ATMOSPHERIC CONDITION / STANDBY-OPERATION

	Selection
WITHOUT CONTROLLED BY ATMOSPHERIC CONDITION / STANDBY-OPERATION	0*
CONTROLLED BY ATMOSPHERIC CONDITION BURNER FIRING-RATE CONTROLLER CURRENT 4 ... 20 mA PAS-SIV	1
CONTROLLED BY ATMOSPHERIC CONDITION BURNER FIRING-RATE CONTROLLER PT100 UP TO 320 °C	2
CONTROLLED BY ATMOSPHERIC CONDITION BURNER FIRING-RATE CONTROLLER POTENTIOMETER 5 kΩ	3
2nd CORRECTION INPUT "CURRENT"	4
STANDBY-OPERATION IF LOAD CONTROLLER INTEGRATED	5
STANDBY-OPERATION, ACTIVATION via FIELD BUS	6
STANDBY-OPERATION, ACTIVATION via LSB Additional required: LSB-module with 4 digital inputs, order no. 663R4028, LSB-address „31“ LSB-connecting cable, order no. 663R0421N, please specify length when ordering	7

\* (Default setting)

### A 30 – CONTROL OUTPUTS / POSITION FEEDBACK

	Selection
4x THREE-POINT-STEP CONTROL OUTPUT	000
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA, FEEDBACK 4 ... 20 mA	001
2x THREE-POINT-STEP CONTROL OUTPUT and 2x CONTINUOUS OUTPUT 4 ... 20 mA, FEEDBACK 4 ... 20 mA Additional required: LSB-module with 4 analogue outputs 0 ... 20 mA, order no. 663R4029, LSB-address „11“ LSB-connecting cable, order no. 663R0421N, please specify length when ordering Terminal with 120 Ω parallel resistor 663R1192  Can be used for position feedback at LAMTEC actuators with electronic controlling	004
4x THREE-POINT-STEP CONTROL OUTPUT and OUTPUT OF THE INTERNAL FIRING RATE	005
4x THREE-POINT-STEP CONTROL OUTPUT and CURVE SPECIFIC SWITCHOVER CHANNEL 1 to 0/4 ... 20 mA	010
2x THREE-POINT-STEP CONTROL OUTPUT and 2x CONTINUOUS OUTPUT 4 ... 20 mA, FEEDBACK 4 ... 20 mA and CURVE SPECIFIC SWITCHOVER CHANNEL 1 to 0/4 ... 20 mA Additional required: LSB-module with 4 analogue outputs 0 ... 20 mA, order no. 663R4029, LSB-address „11“ LSB-connecting cable, order no. 663R0421N, please specify length when ordering Terminal with 120 Ω parallel resistor 663R1192	011
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 2-WIRE-SYSTEM NAMUR, RANGE 175 ... 4.200 IMP/MIN	021*

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## A 30 – CONTROL OUTPUTS / POSITION FEEDBACK

	Selection
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 2-WIRE-SYSTEM NAMUR, RANGE 355 ... 8.430 IMP/MIN	022
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 2-WIRE-SYSTEM NAMUR, RANGE 15 ... 440 IMP/MIN	023
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 2-WIRE-SYSTEM NAMUR, RANGE 45 ... 1.320 IMP/MIN	024
3xTHREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 3-WIRE-SYSTEM INDUCTIVE, RANGE 175 ... 4.200 IMP/MIN	21D
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 3-WIRE-SYSTEM INDUCTIVE, RANGE 355 ... 8.430 IMP/MIN	22D
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 3-WIRE-SYSTEM INDUCTIVE, RANGE 15 ... 440 IMP/MIN	23D
3x THREE-POINT-STEP CONTROL OUTPUT and 1x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK RPM, 3-WIRE-SYSTEM INDUCTIVE, RANGE 45 ... 1.320 IMP/MIN	24D
2x THREE-POINT-STEP CONTROL OUTPUT and 2x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK FOR 1st CONTINUOUS OUTPUT: RPM, 2-WIRE-SYSTEM NAMUR, RANGE 175 ... 4.200 IMP/MIN Additional required: LSB-module with 4 analogue outputs 0 ... 20 mA, order no. 663R4029, LSB-address „11“ LSB-connecting cable, order no. 663R0421N, please specify length when ordering Terminal with 120 Ω parallel resistor 663R1192  Can be used for position feedback at LAMTEC actuators with electronic controlling	031
2x THREE-POINT-STEP CONTROL OUTPUT and 2x CONTINUOUS OUTPUT 4 ... 20 mA FEEDBACK FOR 1st CONTINUOUS OUTPUT: RPM, 3-WIRE-SYSTEM INDUCTIVE, RANGE 175 ... 4.200 IMP/MIN Additional required: LSB-module with 4 analogue outputs 0 ... 20 mA, order no. 663R4029, LSB-address „11“ LSB-connecting cable, order no. 663R0421N, please specify length when ordering Terminal with 120 Ω parallel resistor 663R1192  Can be used for position feedback at LAMTEC actuators with electronic controlling	31D

\* (Default setting)

## A 35 – CO/O<sub>2</sub>-CONTROL

	Selection
WITHOUT CO/O <sub>2</sub> -CONTROL	r0
O <sub>2</sub> -CONTROL VIA LSB Additional required: LSB-connecting cable, length 2 m	r1*
O <sub>2</sub> -CONTROL VIA LSB WITH EXTERNAL O <sub>2</sub> -VALUE (EXTERNAL SYSTEM) Additional required: LSB-connecting cable, order no. 663R0421N, please specify length when ordering LSB-module with 4 analogue inputs 0 ... 10 VDC, order no. 663R4026, LSB-address „39“ Isolation amplifier input 4 ... 20 mA / output 2 ... 7 VDC, order no. 655R0101/EXT2	r2
CO/O <sub>2</sub> -CONTROL Additional required: LSB-connecting cable, order no. 663R0421N, please specify length when ordering	r3
O <sub>2</sub> -CONTROL AND CORRECTION FORWARDING MASTER Additional required: LSB-connecting cable, order no. 663R0421N, please specify length when ordering	r4

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<b>A 35 – CO/O<sub>2</sub>-CONTROL</b>	<b>Selection</b>
O <sub>2</sub> -CONTROL AND CORRECTION FORWARDING SLAVE Additional required: LSB-connecting cable, order no. 663R0421N, please specify length when ordering If field bus-module is present: configuration-adapter, order no. 657R0817	r5
CO/O <sub>2</sub> -CONTROL AND CORRECTION FORWARDING MASTER Additional required: LSB-connecting cable, order no. 663R0421N, please specify length when ordering	r6
CO/O <sub>2</sub> -CONTROL AND CORRECTION FORWARDING SLAVE Additional required: LSB-connecting cable, order no. 663R0421N, please specify length when ordering If field bus-module is present: configuration-adapter, order no. 657R0817	r7

\* (Default setting)

<b>A 40 – CUSTOMER LOGO</b>	<b>Selection</b>
STANDARD	S*
CUSTOMER LOGO Presentation of the logo as (.jpg, .bmp or .gif). One-time costs for preparation of the manuscript	XY

\* (Default setting)

<b>A 50 – CONNECTOR SET</b>	<b>Selection</b>
CONNECTOR SET "SCREWING TERMINALS" STANDARD Pluggable terminal blocks, cable entry straight, screw 90° angled	S*
CONNECTOR SET "SCREWING TERMINALS" INVERS Pluggable terminal blocks, cable entry 90° angled, screw straight	INV
CONNECTOR SET "SPRING TENSION TERMINALS" Pluggable terminal blocks, cable entry and spring lever straight	FED
WITHOUT CONNECTOR SET	0

\* (Default setting)

<b>A 60 – OUTPUT FAULT RELAY</b>	<b>Selection</b>
OUTPUT RELAY FAULT NORMALLY OPEN	AP*
OUTPUT RELAY FAULT NORMALLY CLOSED	RP

\* (Default setting)

<b>A 70 – OPTIONS</b>	<b>Selection</b>
WITHOUT OPTIONS	00*
CURVE SWITCHING UNDER OPERATION WITHIN A FUEL **	01

\* (Default setting)

\*\* Only at ETAMATIC with curve set 2x oil or 2x gas

<b>A 80 – SPECIAL CONFIGURATION</b>	<b>Selection</b>
WITHOUT SPECIAL CONFIGURATION	z0*
CONFIGURATION BY ORDER	01

\* (Default setting)

## Approvals



The information in this publication is subject to technical changes.

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