Technical Data Lambda Transmitter LT2 in Wall Mounting Housing



Fig. 1 LT2 in wall mounting housing



Fig. 2 LT2 in wall mounting housing with reference air pump

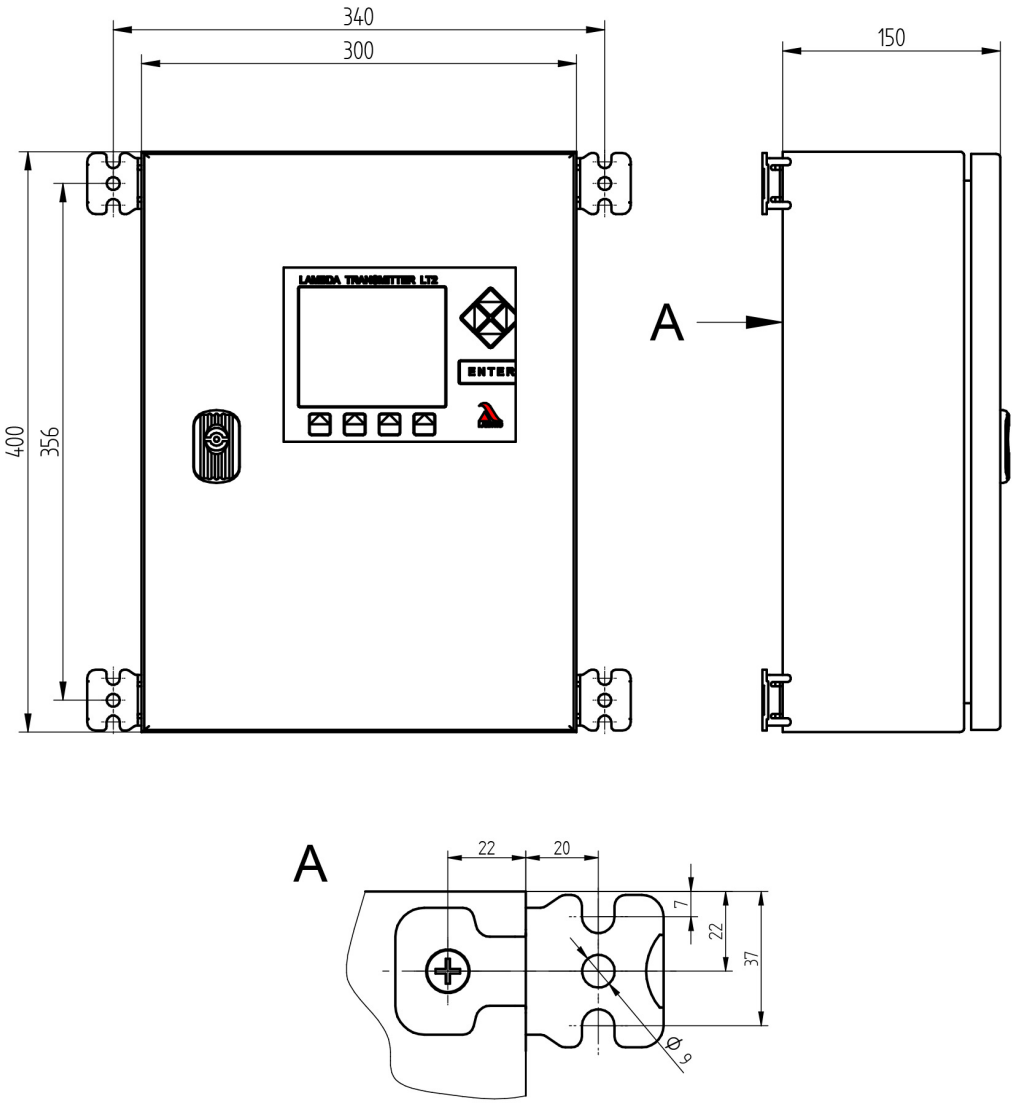


Fig. 3 Dimensional drawing LT2 in wall mounting housing

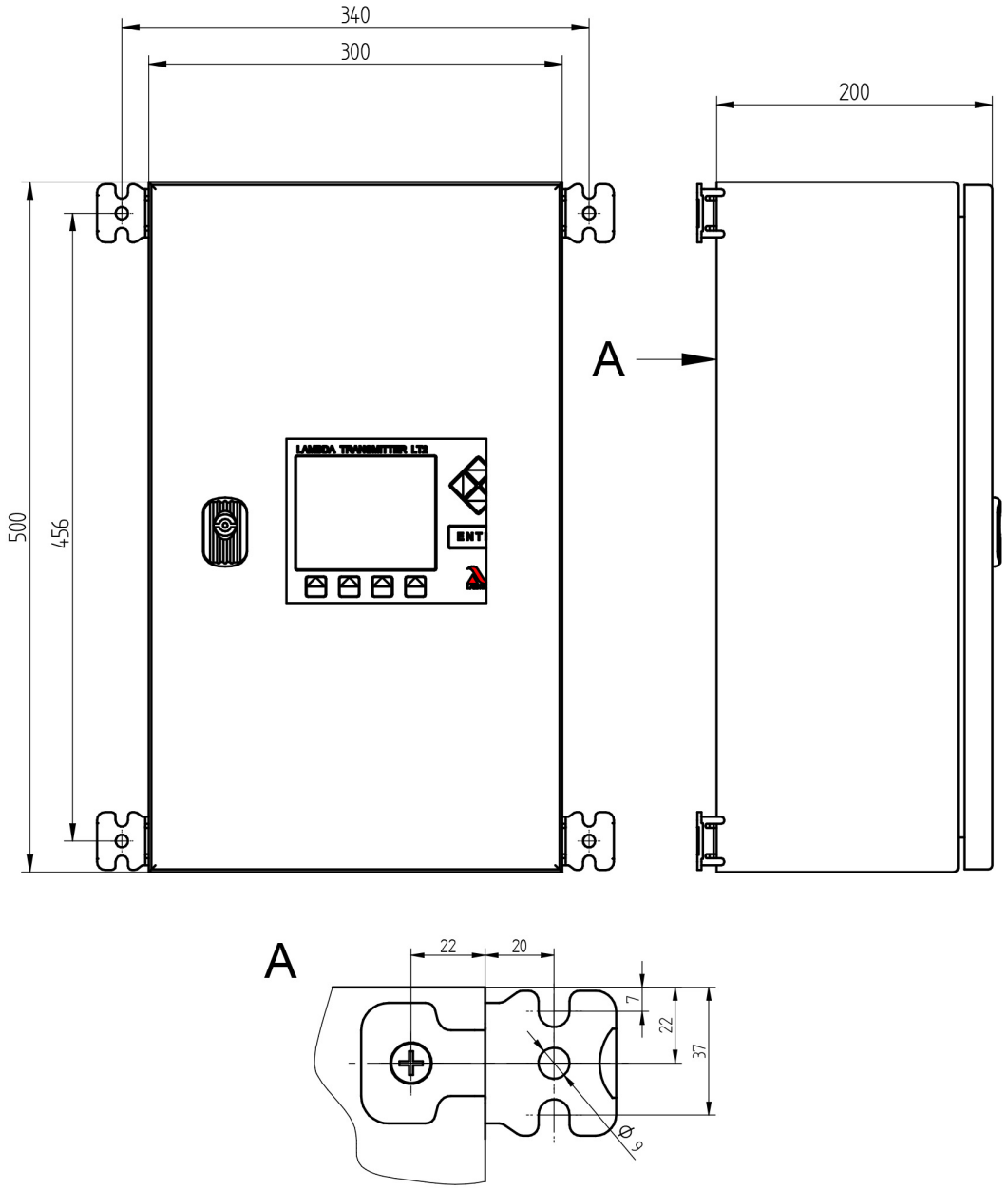


Fig. 4 Dimensional drawing LT2 in wall mounting housing with reference air pump

LT2 in wall mounting housing		
	Standard without reference air pump	**With reference air pump**
Housing	sheet steel, powder-coated	
Dimensions (H x W x D)	400 x 300 x 150 mm | 5.75" x 11.81" x 5.91" in	500 x 300 x 200 mm | 19.69 x 11.81 x 7.87" in
Colour	light grey RAL 7035	
Weight	10 kg / 22.05 lb with display and operating unit +0,5 kg | 1.10 lb	13 kg / 28.66 lb with display and operating unit +0,5 kg | 1.10 lb
Control elements	Display and operating unit with LCD graphic display (option) LSB Remote Software (option)	

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Characteristics	
Power supply	230 VAC and 115 VAC +10 % / -15 %, 48 Hz ... 62 Hz **Use only in earthed networks!**
Power consumption	max. 50 VA short-term 150 VA (heating phase probe)
Display	LCD graphic display 100 x 80 mm (W x H) / 3.94 x 3.15" in in wall mounting housing
Resolution	O_2: 0,1 Vol. % O_2 in range 0 ... 18 Vol. % O_2 CO: 1 ppm in CO range
Time for operational readiness	for initial commissioning of the probe 60 minutes, otherwise approx. 10 minutes after MAINS ON

Interface	
LAMTEC SYSTEM BUS (LSB)	
Direct communication with LAMTEC burner control units	Transmission of measured values, warning and fault messages, receiving commands
Fieldbus connection to PROFIBUS DP	- Reading values, status, faults and warnings - Reset faults and warnings - Setting digital outputs

Analogue outputs	
1 ... 4 current/voltage outputs	1 standard – 2 ... 4 option Direct current 0/4 ... 20 mA load 0 ... 600 Ω non floating (potential isolation optional) Direct voltage 0 ... 10 V load ≥ 10 kΩ non floating (potential isolation optional)

Analogue inputs	
Analogue inputs: 1 ... 4	via plug-in card on LT2 power pack electronic – Analogue input module potentiometer 1 ... 5 kΩ type 657P6000 – Analogue input module 0/4 ... 20 mA type 663P6001 – Analogue input module 0/4 ... 20 mA with supply 24 VDC for transducer type 663P6002 – Temperature input for Pt100 sensor type 657R0890 temperature range 0 ... 320 °C/32 °F ... 608 °F 0 ... 850 °C/32 °F ... 1562 °F resolution 1 °C/33.8 °F

Digital outputs	
Digital outputs	1 standard + 6 optional – 1 relay output 0 ... 230 VAC, 2 A – 0 ... 42 VDC, 3 A collective fault indicator – relay card with 6 relays (1 changeover switch) 0 ... 230 VAC, 2 A – 0 ... 42 VDC, 3 A

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Digital inputs	
Digital inputs	8 inputs - configurable (any) Factory settings: 24 VDC referenced to instrument potential, can be switched via jumper to floating, for external voltage source.

Operating Conditions	
Relative humidity	0 % ... 100 %
Installation height	< 2,000 m | 6,561.68 ft above sea level

Environmental Conditions LT2 in Wall Mounting Housing		
Operation	perm. temperature range	-20 ... +60 °C / -4 ... +140 °F
Transport	perm. temperature range	-40 ... +85 °C / -40 ... +185 °F
Storage	perm. temperature range	-40 ... +85 °C / -40 ... +185 °F
Degree of protection	according to DIN 40050	IP66
Explosion protection	none	
CE Declaration of Conformity	2014/35/EU	Low Voltage Directive
	2014/30/EU	EMC Directive
	2009/142/EC	Gas Appliance Directive
	94/9/EG ATEX	Directive in the corrected version of 10.10.96

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Order Information

NOTICE

All options marked with * correspond to the standard selection.

NOTICE

Configuration for limit value and measured value output according to SIL1 available.

Description / Type	Order no.
Lambda Transmitter LT2 in wall mounting housing	**657R102...**

A 03 – PROBE	Selection
CONFIGURATED FOR COMBI PROBE KS1D [1] (O_2-MEASUREMENT and CO-DETECTION)	KS1D
CONFIGURATED FOR LAMBDA PROBE LS2 (O_2-MEASUREMENT)	LS2*

1 The analogue outputs for the combination probe KS1D can only be supplied in floating version.

A 06 – TYPE	Selection
STANDARD	1S*
FOR PROBE WITH GED FLEX AND PURGE UNIT internal built-in relay module R0017 (attribute 39, selection 30) is necessary	3A
FOR PROBE TYPE "KAF - SEMI AUTOMATIC CALIBRATION AND PURGING" Internal built-in pressure sensor card (analogue input 1 A27 and analogue input 2 A30) and internal built-in relay module R0017 (attribute 39, selection 30) is required, selection not necessary, will be setted automatically by the system!	4KA
FOR PROBE TYPE "EX-AREA 1"	7EX1
FOR PROBE TYPE "EX-AREA 2"	8EX2
FOR PROBE TYPE "HT - EJECTOR EXTRACTION" internal built-in relay module R0017 (attribute 39, selection 30) is necessary	9E

A 09 – DISPLAY	Selection
WITH DISPLAY AND OPERATION UNIT (wall mounting housing with window)	a1

A 12 – PRESSURE SENSOR – Selection not necessary, will be setted automatically by the system

A 15/18/21/24 – ANALOGUE OUTPUT 1/2/3/4	Selection Output 1	Selection Output 2	Selection Output 3	Selection Output 4
WITHOUT ANALOGUE OUTPUT	not possible	c20*	c30*	c40*
ANALOGUE OUTPUT CURRENT 4 ... 20 mA	c11*	c21	c31	c41
ANALOGUE OUTPUT CURRENT 0 ... 20 mA	c12	c22	c32	c42
ANALOGUE OUTPUT VOLTAGE 0 ... 10 V	c13	c23	c33	c43
ANALOGUE OUTPUT CURRENT 4 ... 20 mA FLOATING	c14	c24	c34	c44
ANALOGAUSGANG STROM 4 ... 20 mA FLOATING REG Necessary in conjunction with O_2-control via analogue input at FMS/VMS (0 ... 25 Vol.% O_2 → 4 ... 20 mA)	c15	c25	c35	c45
ANALOGUE OUTPUT CURRENT 0 ... 20 mA FLOATING	c16	c26	c36	c46
ANALOGUE OUTPUT VOLTAGE 0 ... 10 V FLOATING	c17	c27	c37	c47

A 27/30/33/36 – ANALOGUE INPUT 1/2/3/4 Selection not necessary, will be setted automatically by the system

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A 39 – DIGITAL OUTPUTS, LIMIT VALUES, O_2-CONTROLLER, FIRING-RATE	Selection
WITHOUT RELAY MODULE	e00*
RELAY MODULE WITH 6 DIGITAL OUTPUTS (EACH WITH ONE CHANGE-OVER CONTACT)	e30
FIRING-RATE DEPENDED LIMIT VALUES, FIRING-RATE INPUT VIA LSB, INCL. DIGITAL OUTPUTS	e31
FIRING-RATE DEPENDED LIMIT VALUES, FIRING-RATE INPUT VIA POTENTIOM. INCL. DIGITAL OUTPUTS	e32
FIRING-RATE DEPENDED LIMIT VALUES, FIRING-RATE INPUT VIA CURRENT, INCL. DIGITAL OUTPUTS	e33
O_2-CONTROLLER (PID), FIRING-RATE INPUT VIA LSB, INCL. DIGITAL OUTPUTS[1]	e34
O_2-CONTROLLER (PID), FIRING-RATE INPUT VIA POTENTIOMETER, INCL. DIGITAL OUTPUTS[1]	e35
O_2-CONTROLLER (PID), FIRING-RATE INPUT VIA CURRENT, INCL. DIGITAL OUTPUTS**	e36
OUTPUT of "INTERNAL FIRING-RATE" AT ANALOGUE OUTPUT	e40

1 Additional required: analogue output current 4 ... 20 mA, floating, for output of the O_2-controller value

A 42 – "EFFICIENCY CALCULATION, TEMPERATURE MEASUREMENT" **Analogue outputs for the flue gas temperature and / or the efficiency must be ordered separately (attribute A18/A21)** **Additional required:** **Temperature sensor PT100, -50 °C ...+400 °C/-58 °F ... +752 °F, length 150 mm/5.91" in, order no. 657R0897 and/ or** **Temperature sensor PT100, -50 °C ... +400 °C/-58 °F ... +752 °F, length 250 mm/9.84" in, order no. 657R0891**	**Selection**
WITHOUT EFFICIENCY CALCULATION	f0*
EFFICIENCY CALCULATION WITH FIXED ENVIRONMENT TEMPERATURE FLUE GAS TEMPERATURE RANGE 0 ... 320 °C/32 °F ... 608 °F, WITHOUT ANALOGUE OUTPUT	f1
EFFICIENCY CALCULATION WITH FIXED ENVIRONMENT TEMPERATURE FLUE GAS TEMPERATURE RANGE 0 ... 850 °C/32 °F ... 1,562 °F, WITHOUT ANALOGUE OUTPUT	f11
EFFICIENCY CALCULATION FLUE GAS AND ENVIRONMENT TEMPERATURE 0 ... 320 °C/32 °F ... 608 °F, WITHOUT ANALOGUE OUTPUT	f2
EFFICIENCY CALCULATION FLUE GAS AND ENVIRONMENT TEMPERATURE 0 ... 850 °C/32 °F ... 1,562 °F, WITHOUT ANALOGUE OUTPUT	f22
FLUE GAS TEMPERATURE MEASUREMENT 0 ... 850 °C/32 °F ... 1,562 °F, WITHOUT ANALOGUE OUTPUT	f3
FLUE GAS TEMPERATURE MEASUREMENT 0 ... 320 °C/32 °F ... 608 °F, WITHOUT ANALOGUE OUTPUT	f33

A 45 – POWER SUPPLY VOLTAGE	Selection
POWER SUPPLY VOLTAGE 230 VAC	g1*
POWER SUPPLY VOLTAGE 115 VAC	g2

A 48 – REFERENCE AIR PUMP **Only necessary in conjunction with K-probes, if reference air of the probe can't be provided via on-site compressed air**	**Selection**
WITHOUT REFERENCE AIR PUMP (dimensions wall mounting housing 400x300x150 mm)	i0*
REFERENCE AIR PUMP 230 VAC (dimensions wall mounting housing 500x300x200 mm)	i1
REFERENCE AIR PUMP 115 VAC (dimensions wall mounting housing 500x300x200 mm)	i3

A 51 – HOUSING HEATING	Selection
WITHOUT HOUSING HEATING	k0*
HOUSING HEATING 230 VAC/120 W	k1

A 54 – CO/O_2-CONTROL/-MONITORING	Selection
WITHOUT CO/O_2-CONTROL/-MONITORING	m0*
CO/O_2-CONTROL PREPARED as MASTER-LT Additional required: LT2/KS1 prepared as SLAVE-LT and FMS/VMS or ETAMATIC with activated CO-Control	m1
CO/O_2-CONTROL PREPARED as SLAVE-LT Additional required: LT1/LS1 or LT2/LS2 prepared as MASTER-LT and FMS/VMS or ETAMATIC with activated CO-Control	m2

A 54 – CO/O_2-CONTROL/-MONITORING	Selection
CO/O_2-MONITORING PREPARED as MASTER-LT Additional required: LT2/KS1prepared as SLAVE-LT	m3
CO/O_2-MONITORING PREPARED as SLAVE-LT Additional required: LT1/LS1 or LT2/LS2 prepared as MASTER-LT	m4
CO/O_2-MONITORING CONNECTING O_2 VIA EXTERNAL SYSTEM PREPARED as SLAVE-LT	m5

A 57 – CALCULATIONS	Selection
WITHOUT CALCULATIONS	n0*
CO_2-CALCULATIONS Analogue output for the CO_2-value must be ordered separately (attribute A18/A21/A24)	n1
O_2 WET / DRY – CONVERSION	n2

A 60 – LANGUAGE SETTINGS	Selection
LANGUAGE GERMAN/ENGLISH	oD*
LANGUAGE GERMAN/FRENCH	oDF
LANGUAGE ENGLISH/GERMAN	oE
LANGUAGE ENGLISH/FRENCH	oEF
LANGUAGE FRENCH/ENGLISH	oFE

A 63 – SPECIAL CONFIGURATION	Selection
WITHOUT SPECIAL CONFIGURATION	z0*
INSTALLATION IN STAINLESS STEEL HOUSING LT2 WITHOUT WINDOW (dimensions 400x300x200 mm) only LT2 without display and without reference air pump	z3
INSTALLATION IN STAINLESS STEEL HOUSING WITH VIEWING DOOR (dimensions 400x300x200 mm) only LT2 with display and without reference air pump	z4
INSTALLATION IN STAINLESS STEEL HOUSING WITH VIEWING DOOR (dimensions 500x400x200 mm) only LT2 with reference air pump	z5
BUILT-IN IN EEX-HOUSING suitable EExd-housing must be ordered separately look to chapter “Accessories for LT2 - EExd-housing”	z6...
CONFIGURATION BY ORDER	z8
PARAMETERS FIELD BUS CONNECTION PROFIBUS Additional required: Field bus module, order no. 663R040 – 1PB/LT PROFIBUS DP, CONNECTING at LT	z9
PARAMETERS FIELD BUS CONNECTION MODBUS Additional required: Field bus module, order no. 663R040 – 3MBK/LT MODBUS on terminals (RTU), CONNECTING at LT	z91

The information in this publication is subject to technical changes.

LAMTEC GmbH & Co. KG
Josef-Reiert-Straße 26
69190 Walldorf
GERMANY
Telefon: +49 (0) 6227 6052-0
Telefax: +49 (0) 6227 6052-57
info@lamtec.de
www.lamtec.de

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