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TABELA WYBORU ANLIZATORA WG GŁOWNEGO ZASTOSOWANIA

ZASTOSOWANIE	CZAS POMIARU	USŁUGI PROFESJONALNA KONTROLA DUŻYCH KOTŁÓW	Turbiny gazowe	Biogaz
SZYBKIE SPRAWDZENIE	1 mn - 15 mn	D Expert	D Engine	D Engine + Biogas package
REGULACJA KOTŁÓW	30 - 60 min	EN3-F Expert	EN3-F Engine	EN3-F Engine + Biogas package
DŁUŻSZE POMIARY	4 h - 24 h	J2KNpro Expert	J2KNpro Engine	J2KNpro Engine + Biogas package





SWITCH ON - MEASURE - SAVE DATA - DONE!

SUPER COMPACT AND WITH JUST 20 X 13 CM SMALLER THAN A DIN A4 PAPER SHEET THE ECOM-B Q/CO ANALYSER REDEFINES THE CONCEPT OF A PALM INSTRUMENT FULLY NEW.

A SURPRISING AND THOUGHT-OUT DESIGN WHICH FUNDAMENTALLY DIFFERS FROM COMPETITION PRODUCTS.

ECOM-B LIGHT

- HANDY COMPACT ANALYSER FOR SHORT-TIMED COMBUSTION CON-TROLS AT HOME AND SMALL-SIZED PLANTS WITH A PERFORMANCE OF UP TO 70 KWH.
- BASIC MODEL WITH 02 / CO LONGLIFE SENSORS
- NO SENSOR OPTIONAL
- CO SENSOR OVERRANGE
 PROTECTION & FRESH AIR PURGE
 W/O. MEASUREMENT INTERRUPTION



Fitted with **Longlife** sensors the ecom-B is the incarnation of durability also provided by **its robust aluminum housing** which is better than plastics executions up to catch up with tough daily handling.

The special water trap with its **stretchable and exchangeable pad** efficiently catches the condensate and protects the instrument interior –especially the sensitive sensors unit- against any moisture infiltration.

Integral, backlit display, backlit keypad, probe and 3-chamber sampling tubing with integral water trap, T-Room sensor all fit easily in the almost 1.5 kg light instrument concept.

Despite mini dimensions it still offers space for a third, optional sensor measuring NO.

- BACKLIT DISPLAY & KEYPAD
- LITHIUM-ION BATTERY
- BLUETOOTH LOW ENERGY -BLE-
- ROBUST AND ULTRA-LIGHT
 ALUMINIUM PROTECTIVE HOUSING



Backside with magnets easy positioning on boiler casing





	TA & FEATUR	Participation of the Control of the	The second state of the second	O= Op	tion
MEASUREMENT	RANGE	RESOLUTION	ACCURACY		
Maximal amount of el	ectrochemical gas	sensors	*= Higher value prevails		3
O ₂	021 %	0,01 vol.%	± 0,3 vol. %		1
CO ppm (H ₂ -comp.)	04000 ppm	1 ppm	± 20 ppm / 5% of meas. value*		1
CO ppm (n. H ₂ -comp.)	02000 ppm	1 ppm	± 20 ppm / 5% of meas. value*		•
NO	05000 ppm	1 ppm	± 5 ppm / 5% of meas. value*		•
T-Gas	0500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-5	00°C)	1
T-Air	099°C	1°C	± 1°C		1
Pressure / ΔP	± 100 hPa	0.01 hPa	± 2%		1
CALCULATION	1 100 III U	0,011114	RANGE		- 380
CO ₂			0CO₂max		,
	(ETA)		0120%		1
Combustion efficien					1
Excess air (Lambda)		>1		4
Losses			0100%		1
CO _(U) undiluted			x ppm		1
Dew point			x°C		1
mg/m ³			x mg/m ³		1
mg/kWh			x mg/kWh		1
O ₂ reference			x %O ₂		1
NOx via NO measu	rement (estimated	NOx value)	= 1.05 NO		•
GAS SAMPLING / (GAS TEMPERAT	URE MEASURE	MENT		
Sampling probe (BB) unheated, Ø 8 r	nm. 150 mm with	thermocouple	0	1
3-chamber sampling				2	1
Metal fixation cone	rabing (approxis	,		6	1
COMBUSTION AIR	CENCOR				0.750
T-Room sensor (PT	2000) length 100	mm, with cable (approx. 1,1 m) and fixation cone		1
DATA INDICATION	/ INPUT				
LCD display; 70 x 40	mm; backlighted	, graphic- and zo	oom capable, max. 8 lines	4	1
Backlighted keypad	for safe operation	also by unfavou	rable surrounding lighting		1
DATA PROCESSIN	IG / PRINTOUT				
Internal memory for	300 measurement	ts			1
Integral sending dio			printer	4	1
Infrared thermal prin		uona ny mema	printer	0	
Interface Bluetooth I				•	1
Data exchange with			NIT 2		1
			.101.2	_	-0
MEASUREMENT G	AS PREPARATIO	ON		44	
Condensation trap v	ith optical monitor	ring			4
Stretchable, exchan	geable particle- ar	nd humidity-abso	rbing pad	"	1
POWER SUPLY					
Mains nower / Integ	ral Li-Ion battery 6	V / 3,3 Ah; exter	nal battery charger		1
	rger, cable length	opprov 2 m			
External battery cha		approx. 3 m			1
External battery cha	TY	арргох. з пі			1
External battery cha	100000 No. 10000 No. 10000				
External battery cha OPERATION SAFE Temperature trend i	ndication for strea	m core search	gation of life span)		1
External battery cha OPERATION SAFE Temperature trend in Automatic CO switch	ndication for stream	m core search otection & prolon	gation of life span) r values measured w/o. time loss)		
External battery cha OPERATION SAFE Temperature trend in Automatic CO switch	ndication for stream h-off (= sensor pro measurement into	m core search otection & prolon			4
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after	ndication for stream h-off (= sensor pro measurement inte r operation	m core search otection & prolon erruption (= othe	r values measured w/o. time loss)		1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after Pressure-compensa	ndication for stream h-off (= sensor pro measurement inte r operation	m core search otection & prolon erruption (= othe			1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors	ndication for stream h-off (= sensor promeasurement inte r operation ted gas channel p	m core search otection & prolon erruption (= othe late (optimized g	r values measured w/o. time loss)		1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge aftel Pressure-compensa Longlife sensors Integral Li-Ion- batte	ndication for stream h-off (= sensor promeasurement inte r operation ted gas channel p	m core search otection & prolon erruption (= othe late (optimized g	r values measured w/o. time loss)		1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors Integral Li-Ion- batte CONNECTION	ndication for stream h-off (= sensor pro- measurement inter operation ted gas channel p ry with long-lasting	m core search otection & prolon erruption (= othe late (optimized g	r values measured w/o. time loss)		1 1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors Integral Li-Ion- batter CONNECTION Serial interface for	ndication for stream h-off (= sensor promeasurement into roperation ted gas channel p ry with long-lasting data transfer	m core search otection & prolon erruption (= othe late (optimized g	r values measured w/o. time loss)		1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors Integral Li-Ion- batte CONNECTION	ndication for stream h-off (= sensor promeasurement into roperation ted gas channel p ry with long-lasting data transfer	m core search otection & prolon erruption (= othe late (optimized g	r values measured w/o. time loss)		1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors Integral Li-Ion- batter CONNECTION Serial interface for	ndication for stream h-off (= sensor pro- measurement into r operation ted gas channel p rry with long-lasting data transfer	m core search otection & prolon erruption (= other late (optimized g	r values measured w/o. time loss)	77:	1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switce Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors Integral Li-Ion- batter CONNECTION Serial interface for	ndication for stream h-off (= sensor pro- measurement into r operation ted gas channel p rry with long-lasting data transfer SPORT g with powerful bac	m core search otection & prolon erruption (= other late (optimized g g operation	r values measured w/o. time loss)	"	1 1 1
External battery change of the companies	ndication for stream h-off (= sensor pro- measurement into r operation ted gas channel p rry with long-lasting data transfer ISPORT g with powerful back holding strap with	m core search otection & prolon erruption (= other late (optimized g g operation	r values measured w/o. time loss)		1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switce Fresh air purge w/o. Fresh air purge after Pressure-compensat Longlife sensors Integral Li-lon- batte CONNECTION Serial interface for STORAGE / TRAN Aluminium housing Length-adjustable	ndication for stream h-off (= sensor pro- measurement into r operation ted gas channel pro- ry with long-lasting data transfer ISPORT g with powerful back holding strap with	m core search otection & prolon erruption (= other late (optimized g g operation ck magnets Velcro strip	r values measured w/o. time loss)	0	1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switce Fresh air purge w/o. Fresh air purge aftet Pressure-compensa Longlife sensors Integral Li-Ion- batte CONNECTION Serial interface for STORAGE / TRAN Aluminium housing Length-adjustable Textile transport ba DIMENSIONS W	ndication for stream h-off (= sensor pro measurement into r operation ted gas channel p rry with long-lasting data transfer USPORT g with powerful back holding strap with ag EIGHT OTHERS	m core search otection & prolon erruption (= other late (optimized g g operation ck magnets Velcro strip	r values measured w/o. time loss) as flow w/o. pressure fluctuation)	0	1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switce Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors Integral Li-Ion- batter CONNECTION Serial interface for STORAGE / TRAN Aluminium housing Length-adjustable Textile transport batter DIMENSIONS W Dimensions: (W x	ndication for stream h-off (= sensor pro measurement into r operation ted gas channel p ry with long-lasting data transfer USPORT g with powerful back holding strap with ag EIGHT OTHERS H x D) approx. 200	m core search otection & prolon erruption (= other late (optimized g g operation ck magnets Velcro strip 0 x 125 x 70 mm	values measured w/o. time loss) as flow w/o. pressure fluctuation) (7.8 x 4.9 x 2.7 in.)	0	1 1 1
External battery cha OPERATION SAFE Temperature trend i Automatic CO switc Fresh air purge w/o. Fresh air purge after Pressure-compensa Longlife sensors Integral Li-Ion- batte CONNECTION Serial interface for STORAGE / TRAN Aluminium housing Length-adjustable Textile transport ba DIMENSIONS W Dimensions: (W x Weight: approx. 1.	ndication for stream h-off (= sensor pro measurement into r operation ted gas channel p ry with long-lasting data transfer USPORT g with powerful back holding strap with ag EIGHT OTHERS H x D) approx. 200 5 kg (3.1 pd.) com	m core search otection & prolon erruption (= other late (optimized g g operation ck magnets Velcro strip 0 x 125 x 70 mm plete with sampl	values measured w/o. time loss) as flow w/o. pressure fluctuation) (7.8 x 4.9 x 2.7 in.)	0	1 1 1

ECOM-B | ALTERNATIVE VERSION

- As 108509 but with CO non H2-compensated
- · Without fresh air purging
- · With T-Room stick (instead of T-Room sensor)

Item no. 104764

GAS SENSOR | OPTION

NO MEASUREMENT, 0-5000 PPM

(Item no. 102819)

DIFFERENTIAL PRESSURE | ACCESSORY

TUBING, for differential pressure measurement (± 0-100 hPa), length approx. 1.5 m

Item no. 102884



DATA OUTPUT / TRANSFER | ACCESSORY

ECOM-P, INFRARED PRINTER

For the documentation of the measured values

- Weight: approx. 350 g (12.3 oz.)
- Dim.: appr. 77 x 77,5 x 40 mm (3 x 3 x 1.5 in.)
- Delivered with 1 printer roll & batteries

Item no. 104630

DATA CABLE -> PC (USB)

- For transfer of data stored in analyser memory into PC / Laptop
- Length approx. 1.5 m (4.9 in.)



Item no. 104003

T-ROOM MEASUREMENT | ALTERNATIVE

T-ROOM STICK PT 2000

- Dim.: approx. 28 x Ø 11 mm (1.1 x Ø 0.04 in.)
- Weight: approx. 5 g (0.17 oz.)

(Item no. 102888)

T-ROOM PROBE PT 2000

· Length 260 mm (10 in.), 3 m (10 ft.) cable



(Item no. 104569)

T-GAS MEASUREMENT | ALTERNATIVE

PROBE 220 MM (8.6 IN.) W. TUBING 2.2 M (7.2 FT.) Instead of standard probe / tubing

(Item no. 104807)

SOOT MEASUREMENT | MANUAL

SOOT PUMPT KIT

Consisting of each 1 manual soot, pump, soot comparison scale, tube of piston grease, socket wrench and 200 soot papers



Length: 39 cm (15 in.); weight: approx. 0.5 kg (1.1 pd.)

Item no. 50538







CONSUMABLES FOR STOCK	
Condensate pads (pack of 5 pcs)	Item no. 102776
Printer paper roll (for ecom-P)	Item no. 56181



TRANSPORT | ACCESSORIES

TEXTILE TRANSPORT BAG

- · Material: tough, washable textile, black
- · Interior structure individually customizable: 2 padded dividers (approx. 38,5 x 10,5 x 1 cm) adjustable at choice thanks to Velcro® pieces on bag sides and
- · Back wall with fixing rubber bands
- · Lid closable with all-round zipper
- · Outside pocket (right side) for the stowage of e.g. power charger, tools or else
- Robust & adjustable ecom® comfort shoulder carrying strap
- · Shock-absorbing protective corners
- Dimensions: approx. 40 x 25 x 22 cm
- · Weight: approx. 1,6 kg

Item no. 108283

SAMPLING SYSTEM | ACCESSORY

PROBE EXTENSION PIECE

With flexible silicone centerpiece.

Slipped over probe tip by measurements at hardly accessible, angled measurement openings.



Remark: Because of the missing thermocouple within the extension piece, no accurate gas temperature can be measured. The value which finally reaches the thermocouple of the probe has been influenced by the heat loss along the gas conveyance path.



⊕ €COMMANDER APP



- Automatic identification of ecom instrument via wireless pairing
- Recording of last active connection
- Use not limited to a specific instrument

SIMPLE HANDLING

- Remote monitoring of measurement
- Start / stop of CO sensor purge
- Printout of measurement results
- Switch to stand-by mode

SMART DATA PROCESSING

- Display of all measurement parameters
- Organisation of customer data
- Recording and management of measurement values
- Archiving and / or export of measurement values via PDF

Download free of charge







OPEN UP - SWITCH ON - MEASURE - SAVE DATA - DONE!



ECOM-CL2

THE PERFECT COMBINATION OF WALL-POSITIONED AND FLOOR-STANDING INSTRUMENT!

- COMPACT ANALYSER FOR SHORT-TIME MEASUREMENTS AT HOME AND SMALL-SIZED PLANTS WITH A PERFORMANCE OF UP TO 70 KWH.
- BASIC MODEL WITH O₂ / CO LONGLIFE SENSORS
- NO SENSOR OPTIONAL
- CO SENSOR OVERRANGE PROT-ECTION & FRESH AIR PURGE W/O. MEASUREMENT INTERRUPTION
- CONDENSATE TRAP WITH ELEC-TRONIC LEVEL MONITORING
- INTEGRAL THERMAL QUICK-PRINTER
- BACKLIT DISPLAY & KEYPAD
- BLUETOOTH LOW ENERGY –BLE-



- LITHIUM-ION BATTERY
- BATTERY RECHARGING ALSO BY CLOSED HOUSING LID
- SCHOKPROOF & ULTRALIGHT ALUMINIUM PROTECTIVE HOUSING





MEASUREMENT	RANGE	RESOLUTION	ACCURACY *= Higher value prevails	
Maximal amount of el	ectrochemical gas :	sensors		3
O ₂	021 %	0,01 vol.%	± 0,3 vol. %	1
CO ppm (H ₂ -comp.)	04000 ppm	1 ppm	± 20 ppm / 5% of meas. value*	
CO ppm (n. H ₂ -comp.)	02000 ppm	1 ppm	± 20 ppm / 5% of meas. value*	
NO	05000 ppm	1 ppm	± 5 ppm / 5% of meas. value*	_
T-Gas	0500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	
				1
T-Air	099°C	1°C	±1°C	1
Pressure / ΔP	± 100 hPa	0,01 hPa	± 2%	1
CALCULATION			RANGE	
CO ₂			0CO₂max	1
Combustion efficien	cy (ETA)		0120%	1
Excess air (Lambda)		>1	1
Losses			0100%	1
CO _(U) undiluted			x ppm	1
Dew point			x°C	1
mg/m³			x mg/m³	4
mg/kWh			x mg/kWh	1
O ₂ reference			x %O ₂	4
NOx via NO measur	rement (estimated	NOx value)	= 1.05 NO	•
GAS SAMPLING (GAS TEMPERATI	JRE MEASURE	MENT T-ROOM MEASUREMENT	
Sampling probe 220	mm (BB) ∅ 8 mn	n, with thermoco	uple	1
3-chamber sampling	tubing 2.20 m (ty	pe B)		1
Metal fixation cone		10000010		1
	2000) length 100	mm_with cable (approx. 1.1 m) & fixation cone	1
DATA INDICATION		min, war cable (approx. 2.2 my a mation cone	
	The state of the s			,
			oom capable, max. 8 lines	1
Backlighted keypad	for safe operation	also by unfavou	rable surrounding lighting	1
DATA PROCESSIN	IG / PRINTOUT			
Internal memory for	300 measurement	ts		1
Data exchange with	ecom® PC-Softwa	are MiniDV, DAS	S.NT.2	1
Integral thermal quic				1
Interface for Bluetoo		F) data transfer		1
CONNECTION	ar Low Energy (D			
		-		
Serial interface for d		20710		1
MEASUREMENT G	AS PREPARATION	ON		
Condensate trap wit	th electronic level i	monitoring and fi	ne dust filter	1
POWER SUPPLY				
Mains power / batte	ry operation via int	egral Lithium-lor	n battery 6 V / 3,8 Ah	1
External battery cha				1
	o Silver	-, cable length a	арргох: 3 пг	
OPERATION SAFE	:TY			2.540
Temperature trend is	ndication for strea	m core search		√
Automatic CO switch				1
		erruption (= other	r values measured w/o. time loss)	
Fresh air purge afte	r operation			1
Pressure-compensa	ited gas channel p	late (optimized g	as flow w/o. pressure fluctuation)	4
STORAGE TRANS	SPORT			
		ne back for opera	ation as boiler-positioned analyser	1
		•	as floor-standing analyser	1
Shoulder carrying st		na ioi operationi	as noor standing analyses	1
				V
DIMENSIONS WE	IGHT OTHERS			
Dim.: by closed lid	, approx. 340/230/	95 mm; by open	lid, approx. 340/350/180 mm (L x H x W)
Weight: approx. 3 kg	g complete with sa	mpling probe		
Calibration certificat	e, issued after inst	rument calibratio	on into calibration chamber	1
Tested and approve comp) / EN 50379-3			p./Pressure) & EN 50379-2 (CO-H 2-	1
Aluminium housing	with 10 years quar	antee		1
-			90 % rF, non-condensing	
Admissible storage	•		Trining	
		+50 C		
Fuel types: up to ma		3		
Recommended inter	rval for check/mair	ntenance: 1 year		

ECOM-CL2 | BASIC PACKAGES AT CHOICE

O2, CO-H2-compensated, T-Room sensor

Item no. 106561

O2, CO-H2-compensated, T-Room stick Item no. 7106444

O2, CO-n.-H2-compensated, T-Room sensor Item no. 7106445

Item no.: on request



GAS SENSOR | OPTION

NO MEASUREMENT, 0-5000 PPM (Item no. 106093)

DIFFERENTIAL PRESSURE | ACCESSORY

TUBING, for differential pressure measurement (± 0-100 hPa), length approx. 1.5 m (4.9 ft.)

Item no. 102884

DATA OUTPUT / TRANSFER | ACCESSORY

DATA CABLE -> PC (USB)

· For transfer of data from analyser memory to PC or Laptop

· Length approx. 1.5 m



Item no. 104003

T-ROOM MEASUREMENT | ALTERNATIVE

T-ROOM PROBE PT 2000

· Length 260 mm, with 3 m cable

Item no. 104569



SOOT MEASUREMENT | MANUAL

SOOT PUMPT KIT

Consisting of each 1 manual soot, pump, soot comparison scale, tube of piston grease, socket wrench and 200 soot papers

Length: approx. 39 cm; weight: approx. 0.5 kg

Item no. 50538

SAMPLING SYSTEM | ACCESSORY

PROBE EXTENSION PIECE

With flexible silicone centerpiece. Slipped over probe tip by measurements at hardly accessible, angled measurement openings.



Item no. 103492

Remark: Because of the missing thermocouple within the extension piece, no accurate gas temperature can be measured. The value which finally reaches the thermocouple of the probe has been influenced by the heat loss along the gas conveyance path.

CONSUMABLES | FOR STOCK

Thermal printer paper roll	Item no. 56181
Soot filter	Item no. 50508
Fine dust filters (pack of 10 pcs)	Item no. 100568







- Robust, ergonomic carrying grip
- Slots for shoulder carrying strap
- 3 Fixation clips for optional probe extension piece
- T-Room sensor with fixation cone Backlit LCD display
- Integral thermal quick-printer. Paper width 58 mm.
- 7 Position-independent condensate trap with electronic condensate monitoring and
- Backlit keypad for safe operation also by unfavourable lighting conditions
- Serial interface RS232 (behind tubing)
- 10 Gas sampling probe length 220 mm with 3-chamber tubing 2.20 m and fixation cone. Simple and quick tubing re-stowage after measurement thanks to sample line guidance.

View backside

3 powerful magnets for safe positioning at boiler casing - also in case of lower magnetic pull material properties.

> Easy and safe transport thru instant sticking on metal parts of professional service cars.



WATCH AT VIDEO CLIPS ON

Subject to technical changes 07/2020



⊕ ECOMMANDER APP



- Automatic identification of ecom instrument via wireless pairing
- Recording of last active connection
- Use not limited to a specific instrument

SIMPLE HANDLING

- Remote monitoring of measurement
- Start / stop of CO sensor purge
- Printout of measurement results Switch to stand-by mode

SMART DATA PROCESSING

- Display of all measurement parameters
- Organisation of customer data
- Recording and management of measurement values
- Archiving and / or export of measurement values via PDF

Download free of charge







ECOM-D EXPERT

- HANDY AND COMPACT
 ANALYSER IN PROFI

 PACKAGE FOR CONTROL
 MEASUREMENTS
- FITTED WITH O₂, CO, NO AND NO₂ LONGLIFE GAS SENSORS
- UNHEATED PROBE, LENGTH
 300 MM Ø 10 MM
- 3-CHAMBER NOX TUBING 3.5 M
- MINI GAS COOLER
- THERMAL QUICK-PRINTER
- BLUETOOTH LOW ENERGY –BLE-
- LITHIUM-ION BATTERY
- SPACIOUS HARDTOP TRANSPORT
 CASE IN XL SIZE













	TA & FEATUR	The same of the sa		Option
MEASUREMENT	RANGE	RESOLUTION	ACCURACY	vi
Maximal amount of ga	as sensors		*= Higher value prevails	6
O ₂	021 %	0,01 vol.%	± 0,3 vol. %	1
CO ppm (H _z -comp.)	04000 ppm	1 ppm	± 20 ppm / 5% meas. value*	1
NO	05000 ppm	1 ppm	± 5 ppm / 5% meas. value*	1
NO ₂	01000 ppm	1 ppm	± 5 ppm / 5% meas. value*	1
T-Gas	0500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	1
T-Air	099°C	1°C	± 1°C	1
Pressure / ΔP	± 100 hPa	0,01 hPa	± 2%	1
CALCULATION			RANGE	
CO ₂			0CO₂max	1
Combustion efficiency	(ETA)		0120%	1
Excess air (Lambda)			>1	1
Losses			0100%	1
CO _(U) undiluted			x ppm	1
Dew point			x°C	1
mg/m³			x mg/m³	
mg/kWh			x mg/kWh	1
O ₂ reference			x mg/kwn x %O ₂	1
O₂ reference GAS SAMPLING 0	CAS TEMPERAT	LIDE MEACURE	(18) (2) (19) E. (19)	1
			N. HOLOUGEST	
	•		mm, with thermocouple	1
			length 3,5 m (11.5 ft)	1
Fixation cone with T	eflon protective ri	ng and stainless-	TOTAL CONTRACTOR CONTR	1
High-value T-Gas pl	ug		4	1
COMBUSTION AIR	SENSOR			
T-Room sensor (PT	2000) with cable	ca. 3 m (10 ft.), r	nagnet fixation & fixation cone	1
DATA INDICATION	INPUT			
LCD display 79 x 53	mm, 240 x 160 E	ots, backlighted,	graphic-/zoom-capable 5	1
Keypad with alphani			6	1
DATA PRINTOUT				
Integral thermal quid	k-nrinter naner w	idth 58 mm (2.2	in.)	1
Address on protocol			,	1
DATA PROCESSIN		ser (via keypaa)		
				1
Slot for MM card; da			8	
Bluetooth Low Energ		1		4
Wi-Fi interface (inste				
			7, DAS.NT.2, DAS 5.01	4
Disturbance diagnos	is with ecom-AK	via connection ca	able	1
CONNECTIONS				
Charging connection	at instrument			4
Multi-function interfa	ce		8	1
USB interface for da	ta transfer		8	1
MEASUREMENT G	AS PREPARATION	ON		
	eport (quick avails	ability of magazine	ement data)	1
	sport (quick avail	ability of measure	annone action)	
Extra-quick gas tran		ability of measure	9	1
Extra-quick gas tran Electric mini gas c		ability of measure		1
Extra-quick gas tran Electric mini gas c POWER SUPPLY	ooler	ability of measure		1
Extra-quick gas tran Electric mini gas co POWER SUPPLY Mains / battery oper	ooler ation			
Extra-quick gas tran Electric mini gas co POWER SUPPLY Mains / battery oper External charger, ca	ooler ation ble length approx	. 3 m (10 ft.)	•	1
Extra-quick gas tran Electric mini gas c POWER SUPPLY Mains / battery oper External charger, ca Lithium-lon battery 6	ooler ation ble length approx 5 V / 3,3 Ah with lo	. 3 m (10 ft.)	•	1
Extra-quick gas tran Electric mini gas c POWER SUPPLY Mains / battery oper External charger, ca Lithium-Ion battery & OPERATION SAFE	ation ble length approx S V / 3,3 Ah with k	. 3 m (10 ft.) ong-operation tim	•	1
Extra-quick gas tran Electric mini gas c POWER SUPPLY Mains / battery oper External charger, ca Lithium-Ion battery 6 OPERATION SAFE Temperature trend in	ation ble length approx 5 V / 3,3 Ah with k TY ndication for strea	. 3 m (10 ft.) ong-operation tim m core search	•	1
Extra-quick gas tran Electric mini gas c POWER SUPPLY Mains / battery oper External charger, ca Lithium-lon battery 6 OPERATION SAFE Temperature trend in Automatic self-test of	ation ble length approx V / 3,3 Ah with lo TY ndication for strea	. 3 m (10 ft.) ong-operation tim m core search ohase	o e	1 1
Extra-quick gas tran Electric mini gas co POWER SUPPLY Mains / battery oper External charger, ca Lithium-Ion battery 6 OPERATION SAFE Temperature trend in Automatic self-test of Automatic CO switch	ation ble length approx 5 V / 3,3 Ah with lo TY ndication for streaturing calibration phoreff (= sensor pro	. 3 m (10 ft.) ong-operation tim im core search ohase otection & prolon	o e	1 1
Extra-quick gas tran Electric mini gas co POWER SUPPLY Mains / battery oper External charger, ca Lithium-Ion battery 6 OPERATION SAFE Temperature trend in Automatic self-test of Automatic CO switch Fresh air purge w/o.	ation ble length approx 5 V / 3,3 Ah with lo TY ndication for streaturing calibration phoff (= sensor promeasurement int	. 3 m (10 ft.) ong-operation tim im core search ohase otection & prolon	gation of life span)	1 1
Extra-quick gas tran Electric mini gas compower SUPPLY Mains / battery oper External charger, ca Lithium-Ion battery 6 OPERATION SAFE Temperature trend in Automatic self-test of Automatic CO switcl Fresh air purge w/o. Fresh air purge after	ation ble length approx V / 3,3 Ah with lo TY indication for streaturing calibration promotes for the measurement into operation	. 3 m (10 ft.) ong-operation tim m core search ohase otection & prolon erruption (= othe	gation of life span) r values measured w/o. time loss)	1 1 1
Extra-quick gas tran Electric mini gas co POWER SUPPLY Mains / battery oper External charger, ca Lithium-lon battery 6 OPERATION SAFE Temperature trend in Automatic self-test of Automatic CO switch Fresh air purge w/o. Fresh air purge after Pressure-compensa	ation ble length approx V / 3,3 Ah with lo TY indication for streaturing calibration promotes for the measurement into operation	. 3 m (10 ft.) ong-operation tim m core search ohase otection & prolon erruption (= othe	gation of life span)	1 1 1
Extra-quick gas tran Electric mini gas compower SUPPLY Mains / battery oper External charger, ca Lithium-Ion battery 6 OPERATION SAFE Temperature trend in Automatic self-test of Automatic CO switcl Fresh air purge w/o. Fresh air purge after	ation ble length approx V / 3,3 Ah with lo TY Indication for streaturing calibration promeasurement int V operation ted gas channel processors	. 3 m (10 ft.) ong-operation tim on core search ohase otection & prolon erruption (= othe	gation of life span) r values measured w/o. time loss) gas flow w/o. pressure fluctuation)	1 1 1 1 1 1

DIFFERENTIAL PRESSURE | ACCESSORY

TUBING, for Δ pressure measurement (\pm 0-100 hPa), length approx. 1.5 m (4.9 ft.)

Item no. 104111

DATA RECORDING | ACCESSORY

MM CARD 2 GB

Item no. 102469



DATA TRANSFER | OPTION / ACCESSORIES

WI-FI OPTION, instead of Bluetooth Low Energy

Item no. 104121

DATA CABLE USB, ANALYSER -> PC

- For data transfer to PC
- · Length approx. 2 m (6.5 ft.)





8-CHANNEL ANALOG OUTPUT BOX (V / mA)

Connection box for external logging/recording units

- Dim.: approx. 165 x 85 x 30 mm (L x W x H)
- · Weight: approx. 0.3 kg
- · Incl. charger, cable to analyser, RS 232 cable, software



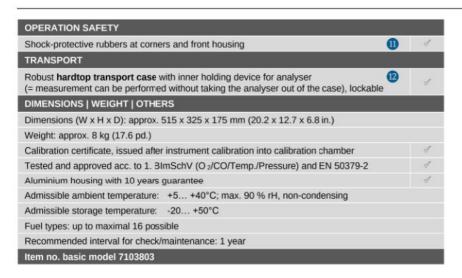
Item no. 101769

CONSUMABLES FOR STOCK	3
Fine dust filters (pack of 10 pcs)	Item no.103903
Thermal printer paper roll	Item no. 50513











By the ecom-D Expert the measurement can be made at choice

directly out of the transport case...



... or with the instrument taken out and positioned on the boiler.

⊕ €COMMANDER APP



Close-up view upper compartment MM card slot, USB & AUX connections.

connections pressure and 4Pa sensor.

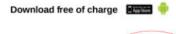
- Automatic identification of ecom instrument via wireless pairing
- Recording of last active connection
- Use not limited to a specific instrument

SIMPLE HANDLING

- Remote monitoring of measurement
- Start / stop of CO sensor purge
- Printout of measurement results
- Switch to stand-by mode

SMART DATA PROCESSING

- Display of all measurement parameters
- Organisation of customer data
- Recording and management of measurement values
- Archiving and / or export of measurement values via PDF











ECOM-D ENGINE

- HANDY AND COMPACT ANALYSER
 IN PROFI PACKAGE FOR
 CONTROL MEASUREMENTS
 AT HEAT & POWER PLANTS
- FITTED WITH O2, CO, NO, NO2
 LONGLIFE GAS SENSORS
- OPTIONAL PACKAGE H₂S / CH₄ FOR BIOGAS MEASUREMENT
- UNHEATED GAS SAMPLING PROBE
 360 MM, Ø 8 MM WITH MINI HEAT
 PROTECTION SHIELD
- 2-CHAMBER NOX TUBING 3.5 M
- MINI GAS COOLER
- THERMAL QUICK-PRINTER
- BLUETOOTH LOW ENERGY -BLE-
- INCL. MM CARD & USB DATA CABLE
- LITHIUM-ION BATTERY
- SPACIOUS HARDTOP TRANSPORT
 CASE IN XL SIZE





Close-up view: cone with mini heat protection shield







TECHNICAL DA	TA & FEATUR	-	I and the second	Option
MEASUREMENT	RANGE	RESOLUTION	ACCURACY	
Maximal amount of g	jas sensors		*= Higher value prevails	6
O ₂	021 %	0.01 vol.%	± 0.3 vol. %	1
CO ppm (H ₂ -comp.)	04000 ppm	1 ppm	± 20 ppm / 5% meas. value*	1
NO	05000 ppm	1 ppm	± 5 ppm / 5% meas. value*	1
NO ₂	01000 ppm	STATE OF STA	± 5 ppm / 5% meas. value*	1
		1 ppm		
H₂S 	05000 ppm	1 ppm	± 50 ppm / 5% meas. value*	
CH₄	0100% vol.	0.1 vol.%	± 5% of meas. range end value	•
T-Gas	0500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	4
Γ-Air	099°C	1°C	± 1°C	1
Pressure / ΔP	± 100 hPa	0,01 hPa	± 2%	1
CALCULATION			RANGE	
CO ₂	1		0CO₂max	1
Combustion efficience	cy (ETA)		0120%	1
Excess air (Lambda)			>1	1
osses			0100%	1
CO _(U) undiluted			x ppm	1
Dew point			x°C	V
mg/m³			x mg/m³	1
ng/kWh			x mg/kWh	1
O ₂ reference	U.	11	x %O ₂	1
GAS SAMPLING	GAS TEMPERAT	URE MEASURE	MENT	
Sampling probe (S	J), unheated 360 i	nm (1.1 ft), Ø 8	mm, with thermocouple	1
			length 3.5 m (11.5 ft.)	1
			t protection shield	1
		ng and mini near	4	1
High value T-Gas p			4	V
COMBUSTION AIR	RSENSOR			
Γ-Room stick			5	V
DATA INDICATIO	N INPUT			
LCD display 79 x 5	3 mm, 240 x 160 E	ots, backlighted,	graphic-/zoom-capable 6	1
Keypad with alphar	numerical input fun	ction	0	1
DATA PRINTOUT		H100000		
	al maintag nanaga	idth FO man (2.2	in.)	1
ntegral thermal qui			III.)	1
Address on protoco	1000	ser (via keypad)		Ψ.
DATA PROCESSI	NG			
Slot for MM card; d	ata logger function	l		1
MM card 2 GB			9	1
USB data cable, d	ata transfer instrur	nent → PC	10	1
Bluetooth Low Ene	rgy (BLE) interface	,		1
Wi-Fi interface (ins				•
		software MiniDV	, DAS.NT.2, DAS 5.01	1
Disturbance diagno	sis with ecom-AK	via connection ca	will	4
CONNECTIONS	200			
Charging connection	n at instrument			V
Multi-function interf	ace			1
JSB interface for d	ata transfer			1
MEASUREMENT (GAS PREPARATI	ON		
			ment data)	1
		ability of friedsure		✓
	cooler		0	0'
Electric mini gas				
Electric mini gas o POWER SUPPLY				1
Electric mini gas o POWER SUPPLY	ration			
Electric mini gas o POWER SUPPLY Mains / battery ope		3 m (10 ft.)		1
Electric mini gas of POWER SUPPLY Mains / battery ope External charger, c	able length approx		e	1
Electric mini gas of POWER SUPPLY Mains / battery ope External charger, c Lithium-lon battery	able length approx 6 V / 3,3 Ah with l		e	
Electric mini gas of POWER SUPPLY Mains / battery ope External charger, c Lithium-Ion battery OPERATION SAF	able length approx 6 V / 3,3 Ah with le	ong-operation tim	e	
Extra-quick gas tra Electric mini gas of POWER SUPPLY Mains / battery ope External charger, c Lithium-lon battery OPERATION SAF Temperature trend	able length approx 6 V / 3,3 Ah with le TY indication for strea	ong-operation tim	е	1
Electric mini gas of POWER SUPPLY Mains / battery ope External charger, c Lithium-Ion battery OPERATION SAFTemperature trend Automatic self-test	able length approx 6 V / 3,3 Ah with le ETY indication for stread during calibration	ong-operation tim um core search phase		1
Electric mini gas of POWER SUPPLY Mains / battery ope External charger, c Lithium-Ion battery OPERATION SAF Temperature trend Automatic self-test Automatic CO swite	able length approx 6 V / 3,3 Ah with le ETY indication for stread during calibration ch-off (= sensor pr	ong-operation tim m core search phase otection & prolone	gation of life span)	1
Electric mini gas of POWER SUPPLY Mains / battery ope External charger, c Lithium-Ion battery OPERATION SAF Temperature trend Automatic self-test Automatic CO swite	able length approx 6 V / 3,3 Ah with le ETY indication for streaduring calibration ch-off (= sensor property), measurement into	ong-operation tim m core search phase otection & prolone		1

BIOGAS ANALYSIS | OPTIONAL PACKAGE See last page. DIFFERENTIAL PRESSURE | ACCESSORY

TUBING, for Δ pressure measurement (\pm 0-100 hPa), length approx. 1.5 m (4.9 ft.)

Item no. 104111

DATA RECORDING | ACCESSORY

MM CARD 2 GB 9





Item no. 102469

DATA TRANSFER | OPTION & ACCESSORIES

DATA CABLE USB, ANALYSER -> PC 10

- · For data transfer to PC
- · Length approx. 2 m (6.5 ft.)



Item no. 55818

WI-FI OPTION, instead of Bluetooth Low Energy

Item no. 104121

8-CHANNEL ANALOG OUTPUT BOX (V / mA)

Connection box for external logging/recording units

- Dim.: approx. 165 x 85 x 30 mm (L x W x H)
- · Weight: approx. 0.3 kg
- · Incl. charger, cable to analyser, RS 232 cable, software



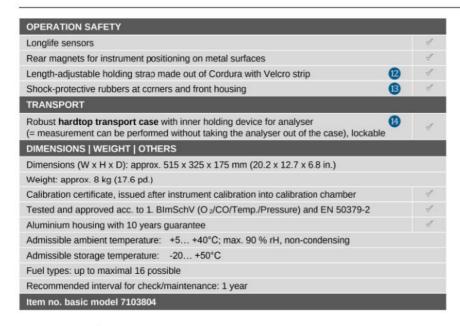
Item no. 101769

CONSUMABLES FOR STOCK		
Fine dust filters (pack of 10 pcs)	Item no. 103903	
Thermal printer paper roll	Item no. 50513	





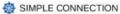






By the ecom-D Engine the measurement can be made at choice directly out of the transport case...

⊕ €COMMANDER APP



- Automatic identification of ecom instrument via wireless pairing
- Recording of last active connection
- Use not limited to a specific instrument

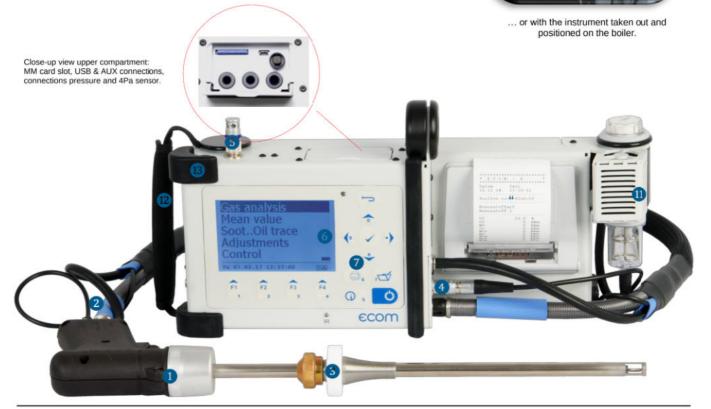
SIMPLE HANDLING

- Remote monitoring of measurement
- Start / stop of CO sensor purge
- Printout of measurement results
- Switch to stand-by mode

SMART DATA PROCESSING

- Display of all measurement parameters
- Organisation of customer data
- Recording and management of measurement values
- Archiving and / or export of measurement values via PDF



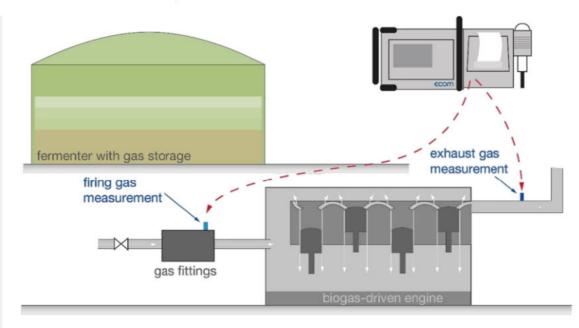








MEASUREMENT OF BIOGAS | APPLICATION FIELD



COMPLETE MEASURING PACKAGE CONSISTING OF:

- · H₂S sensor, electrochemical, measuring range 0-5000 ppm
- · CH₄ sensor, infrared, measuring range 0-100%
- Viton sampling tubing, length approx. 3 m (10 ft.)

Item no. 106751|106752

COMPONENTS OTHERWEISE AVAILABLE SEPARATELY:

· CH₄ sensor, 0-100%

Item No. 107382

· Viton tubing, approx. 3 m

Item no. 106752

THE SHORT VIDEOS ON OUR YOUTUBE CHANNEL OUTLINE IN ENTERTAINING MANNER THE UNIQUE SELLING POINTS OF









THE PORTABLE ECOM® FLUE GAS ANALYSERS - SIMPLY VIEW THEM WHILE CLICKING ON THE ABOVE LINK!

FOCUSED APPLICATION RESPECTIVELY USER PROFILE ECOM FLUE GAS ANALYSERS





SERVICE ORGANISATIONS & FACILITY-MANAGEMENT Maintenance & adjustment of home

smaller boilers. Manufacturers of smaller boilers; Facility Management (building maintenance companies). Service divisions with many technicians



BURNER & BOILER MANUFACTURERS Companies manufacturing resp. maintaining larger boiler and burner. Service divisions with lots of technicians.



COGENERATION Companies manufacturing resp. maintaining engines or combined heat and power plants. An exact NOx measurement is of specific importance in this sector.



OIL & GAS Raw material producton Transport Processing



INDUSTRIAL APPLICATIONS Mining Foundries Cement factories Cookery plants Chemical process heating Waste combustion, etc.

etc.usw.



ECOM® PRODUCTS - YOUR PARTNERS FOR: BURNER DIAGNOSIS GAS LEAK DETECTION FLUE GAS ANALYSIS PRESSURE MEASUREMENT FIND YOUR ECOM® SALES POINT AND DEALER ON: www.ecom.de





ECOM-EN3-F EXPERT

- COMPACT FLUE GAS ANALYSER IN HEATING PROFI PACKAGE
- FITTED WITH O₂, CO, NO, NO₂ LONGLIFE GAS SENSORS
- HEATED SAMPLING PROBE; LENGTH 350 MM, Ø 10 MM
- NOx SAMPLING TUBING, 3-CHAMBER, LENGTH 3.5 M
- HIGH-VALUE T-GAS PLUG
- INTEGRAL THERMAL QUICK-PRINTER
- BLUETOOTH LOW ENERGY –BLE-
- HIGH-PERFORMING GAS PUMP WITH LOW MAINTENANCE
- DIGITAL STATUS INDICATION (BATTERY CHARGING STAND, INSTRUMENT STAND, DATA TRANSFER QUALITY)
- BACKLIT TFT COLOUR DISPLAY & KEYPAD
- MINI GAS COOLER
- LI-ION BATTERY
- ROBUST HARDTOP TRANSPORT CASE









ECOM-EN3-F EXPERT - FLUE GAS ANALYSER **TECHNICAL DATA & FEATURES BASIC MODEL** MEASUREMENT RANGE RESOLUTION ACCURACY Maximal amount of gas sensors 6 O_2 0...21 % 0,01 vol.% ± 0,3 vol. % CO ppm (H₂-comp.) 0...4000 ppm 1 ppm ± 20 ppm / 5% meas. value* 1 NO 0...5000 ppm 1 ppm ± 5 ppm / 5% meas. value* NO₂ 0...1000 ppm 1 ppm ± 5 ppm / 5% meas. value* 1 0...500°C 1°C ± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C) 0...99°C 1°C ±1°C Pressure / AP ± 100 hPa 0.01 hPa ± 2% Soot (integral) 1 CALCULATION RANGE 0...CO₂max CO Combustion efficiency (ETA) 0...120% 1 1 Excess air (Lambda) >1 Losses 0...100% CO(u) undiluted x ppm Dew point x°C ma/m3 x mg/m3 mg/kWh x mg/kWh O₂ reference x %O: GAS SAMPLING | GAS TEMPERATURE MEASUREMENT Sampling probe (SB), heated 350 mm (1.1 ft.), Ø 10 mm, with thermocouple 1 NOx sampling tubing 3-chamber 3.5 m (11.5 ft.) Fixation cone with Teflon protection ring and stainless-steel tip 1 High-value T-Gas plug COMBUSTION AIR SENSOR T-Room sensor (PT 2000) 100 mm, cable ca. 3 m (10 ft.), magnet fixation & fixation cone DATA INDICATION / INPUT TFT colour display 78 x 58 cm, 320 x 240 Dots, backlighted, graphic-/zoom-capable Keypad with alphanumerical input function 4 **DATA PRINTOUT** Integral thermal quick-printer, paper width 58 mm (2.2 in.) DATA PROCESSING Slot for MM card; data logger function Bluetooth Low Energy (BLE) interface Wi-Fi interface (instead of BLE) Data exchange with gratis ecom® PC software MiniDV, DAS.NT.2, DAS 5.01 CONNECTIONS Charging connection at instrument Multi-function interface USB interface for data transfer MEASUREMENT GAS PREPARATION Extra-quick gas transport (quick availability of measurement data) High-performing gas pump with low maintenance Electric gas cooler with automatic condensation evacuation Soot filter for additional soot and dust particle filtering POWER SUPPLY Mains / battery operation - Lithium-Ion battery 7,2 V / 11,6 Ah with long-operation time Mains power cord length approx. 2.3 m (7.5 ft.) **OPERATION SAFETY** Temperature trend indication for stream core search Automatic self-test during calibration phase Automatic CO switch-off (= sensor protection & prolongation of life span) Fresh air purge w/o. measurement interruption (= other values measured w/o. time loss) Fresh air purge after operation Pressure-compensated gas channel plate (optimized gas flow w/o. pressure fluctuation)

TUBING, for AP measurement (± 0-100 hPa), Length approx. 1.5 m (4.9 in.) Item no. 105484 DATA STORAGE | ACCESSORY

MM CARD 2 GB

Item no. 102469



DATA TRANSFER | ACCESSORIES & OPTION

DATA CABLE USB, ANALYSER -> PC

- · For data transfer to PC
- · Length approx. 2 m

Item no. 55818



WI-FI OPTION, instead of Bluetooth Low Energy Item no. 107203

8-CHANNEL ANALOG OUTPUT BOX (V / mA)

Connection box for external logging/recording units

- Dim.: approx. 165 x 85 x 30 mm (L x W x H)
- · Weight: approx. 0.3 kg
- Incl. charger, cable to analyser, RS 232 cable, software



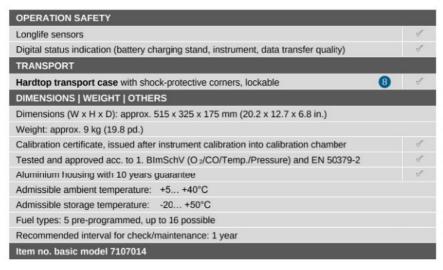
Item no. 101769

Fine dust filter (pack of 10 pcs)	Item no. 100568
Thermal printer paper roll	Item no. 50513
Soot filter papers (pack of 200 pcs)	Item no. 50515
Soot filter	Item no. 50508

Integral flow measurement for control of pump performance

Electronic condensation monitoring





SIMPLE & MODERN DATA MONITORING & TRANSFER WITH THE APP @ CCOMMANDER

MEASURE | DISPLAY | RECORD | TRANSFER

SIMPLE CONNECTION

- Automatic identification of ecom instrument via wireless pairing
- Recording of last active connection Use not limited to a specific instrument

SIMPLE HANDLING

- Remote monitoring of measurement
- Start / stop of CO sensor purge Printout of measurement results
- Switch to stand-by mode



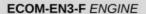
SMART DATA PROCESSING

- Display of all measurement parameters
- Organisation of customer data
- Recording and management of measurement values
- Archiving and / or export of measurement values via PDF









- COMPACT ANALYSER PACKAGED
 FOR THE CONTROL & ADJUSTMENT
 OF COGENERATION PLANTS
- MEASUREMENT OF O₂, CO, NO, NO₂
 LONGLIFE GAS SENSORS
- OPTIONAL PACKAGE H₂S / CH₄
 FOR BIOGAS MEASUREMENT
- UNHEATED GAS SAMPLING PROBE, LENGTH 350 MM,
 Ø 8 MM; WITH MINI HEAT PROTECTION SHIELD
- NOx SAMPLING TUBING,
 2-CHAMBER, LENGTH 3.5 M
- HIGH-VALUE T-GAS PLUG
- INTEGRAL THERMAL QUICK-PRINTER
- BLUETOOTH LOW ENERGY –BLE
- HIGH-PERFORMING GAS PUMP
 WITH LOW MAINTENANCE
- DIGITAL STATUS INDICATION (BATTERY CHARGING STAND, INSTRUMENT STAND, DATA TRANSFER QUALITY)
- BACKLIT TFT COLOUR DISPLAY
 & KEYPAD
- MINI GAS COOLER
- LI-ION BATTERY
- INCL. MM CARD & USB CABLE
- ROBUST HARDTOP TRANSPORT
 CASE IN XL SIZE





COGENERATION - COMBINED HEAT & POWER ECOM-EN3-F ENGINE





TECHNICAL DA	TA & FEATUR	ES BASIC MC	DDEL ✓ = Standard O=	Option
MEASUREMENT	RANGE	RESOLUTION	ACCURACY	
Maximal amount of	as sensors		*= Higher value prevails	6
O ₂	021 %	0,01 vol.%	± 0,3 vol. %	1
CO ppm (H ₂ -komp.)	04000 ppm	1 ppm	± 20 ppm / 5% meas. value*	1
NO	05000 ppm	1 ppm	± 5 ppm / 5% meas. value*	1
NO ₂	01000 ppm	1 ppm	± 5 ppm / 5% meas. value*	1
H₂S	05000 ppm	1 ppm	± 50 ppm / 5% meas. value*	•
CH ₄	0100% vol.	0.1 vol.%	± 5% of meas, range end value	
T-Gas	0500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	1
T-Air	099°C	1°C	±1°C	1
Pressure / ΔP	± 100 hPa	0.01 hPa	+ 2%	1
CALCULATION	1 100 III d	0,0211110	RANGE	
CO ₂			0CO₂max	1
Combustion efficiend	v (ETA)		0120%	
			>1	1
Excess air (Lambda) Losses			0100%	1
	~ /CTA)			1
Combustion efficiend	y (E1A)		x ppm	4
Dew point			X°C	1
mg/m³			x mg/m³	1
mg/kWh			x mg/kWh	4
O₂ reference			x %O ₂	4
	GAS TEMPERAT		NAME OF THE PARTY	
			mm, with thermocouple	4
NOx sampling tubi	ng NOx 2-chambe	r, length 3,5 m (1	The state of the s	1
Fixation cone with	Teflon protection ri	ng and <mark>mini hea</mark>	t protection shield 3	1
High-value T-Gas រុ	olug			1
COMBUSTION AII	RSENSOR			
	102/100/1			
T-Room stick (PT				1
	2000)			1
DATA INDICATIO	2000) N / INPUT	240 Dots, backlij	ghted, graphic-/zoom-capable 4	
DATA INDICATION	2000) N / INPUT 78 x 58 cm, 320 x		ghted, graphic-/zoom-capable 4	1
DATA INDICATION TFT colour display Keypad with alphan	2000) N / INPUT 78 x 58 cm, 320 x			1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun	ction	6	1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT Integral thermal qu	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm	ction		1
DATA INDICATION TET colour display Keypad with alphan DATA PRINTOUT Integral thermal qu DATA PROCESSI	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm	ction (2.2 in.), protoco	6	1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT Integral thermal qu DATA PROCESSI Slot for MM card; d	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm	ction (2.2 in.), protoco	6	1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT Integral thermal qu DATA PROCESSI Slot for MM card; d MM card	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm NG ata logger function	ction (2.2 in.), protoco	6	1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT Integral thermal qu DATA PROCESSI Slot for MM card; d MM card Bluetooth Low Ene	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm NG ata logger function rgy (BLE) interface	ction (2.2 in.), protoco	6	1
Keypad with alphar DATA PRINTOUT Integral thermal qu DATA PROCESSI Slot for MM card; d MM card Bluetooth Low Ene Wi-Fi interface (ins	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm NG ata logger function rgy (BLE) interface	ction (2.2 in.), protoco	6	1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT Integral thermal qu DATA PROCESSI Slot for MM card; d MM card Bluetooth Low Ene Wi-Fi interface (ins USB data cable	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm NG ata logger function rgy (BLE) interface	ction (2.2 in.), protoco	5 d address changeable by user 6	1 1 1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT Integral thermal qu DATA PROCESSI Slot for MM card; d MM card Bluetooth Low Ene Wi-Fi interface (ins USB data cable Data exchange with	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm NG ata logger function rgy (BLE) interface	ction (2.2 in.), protoco	6	1 1 1
DATA INDICATION TFT colour display Keypad with alphan DATA PRINTOUT Integral thermal qu DATA PROCESSI Slot for MM card; d MM card Bluetooth Low Ene Wi-Fi interface (ins USB data cable Data exchange with	2000) N / INPUT 78 x 58 cm, 320 x numerical input fun ick-printer, 58 mm NG ata logger function rgy (BLE) interface	ction (2.2 in.), protoco	5 d address changeable by user 6	1 1 1
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BIOGAS ANALYSIS | OPTIONAL PACKAGE

See last page.

DATA TRANSFER | ACCESSORY & OPTION

WI-FI OPTION, instead of Bluetooth Low Energy Item no. 107203

8-CHANNEL ANALOG OUTPUT BOX (V / mA)

Connection box for external logging/recording units

- Dim.: approx. 165 x 85 x 30 mm (L x W x H)
- Weight: approx. 0.3 kg
- Incl. charger, cable to analyser, RS 232 cable, software

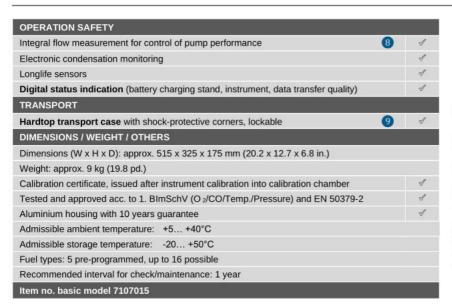


Item no. 101769

CONSUMABLES FOR STOCK	<
Fine dust filter (pack of 10 pcs)	Item no. 100568
Thermal printer paper roll	Item no. 56181
Soot filter	Item no. 50508







SIMPLE & MODERN DATA MONITORING & TRANSFER WITH THE APP & COMMANDER

MEASURE | DISPLAY | RECORD | TRANSFER

SIMPLE CONNECTION

- Automatic identification of ecom instrument via wireless pairing Recording of last active connection
- Use not limited to a specific instrument

SIMPLE HANDLING

- Remote monitoring of measurement
- Start / stop of CO sensor purge Printout of measurement results
- Switch to stand-by mode



SMART DATA PROCESSING

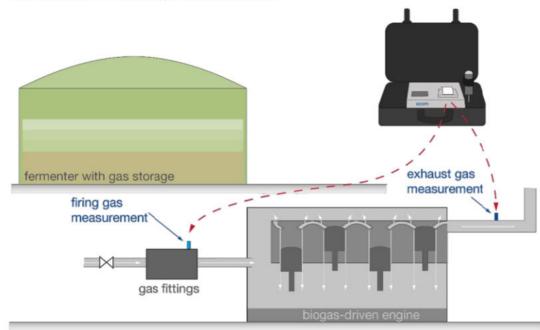
- Display of all measurement parameters
- Organisation of customer data
- Recording and management of measurement values
- Archiving and / or export of measurement values via PDF







MEASUREMENT OF BIOGAS | APPLICATION FIELD



COMPLETE MEASURING PACKAGE CONSISTING OF:

- · H₂S sensor, electrochemical, measuring range 0-5000 ppm
- CH₄ sensor, infrared, measuring range 0-100%
- · Viton sampling tubing, length approx. 3 m (10 ft.)

Item no. 106753|106754

COMPONENTS OTHERWISE AVAILABLE SEPARATELY:

CH₄ sensor, 0-100%

Item No. 107342

Viton tubing, approx. 3 m

Item no. 106754

THE SHORT VIDEOS ON OUR YOUTUbe CHANNEL OUTLINE IN ENTERTAINING MANNER THE UNIQUE SELLING POINTS OF









THE PORTABLE ECOM® FLUE GAS ANALYSERS – SIMPLY VIEW THEM WHILE CLICKING ON THE ABOVE LINK!

FOCUSED APPLICATION RESPECTIVELY USER PROFILE ECOM FLUE GAS ANALYSERS





SERVICE ORGANISATIONS & FACILITY-MANAGEMENT Maintenance & adjustment of home

smaller boilers. Manufacturers of smaller boilers; Facility Management (building maintenance companies). Service divisions with many technicians.



BURNER & BOILER MANUFACTURERS Companies manufacturing resp. maintaining larger boiler and burner. Service divisions with lots of technicians.



COGENERATION
Companies manufacturing resp. maintaining engines or combined heat and power plants. An exact NO_x measurement is of specific importance in this sector.



OIL & GAS Raw material producton Transport Processing



INDUSTRIAL APPLICATIONS Mining Foundries Cement factories Cookery plants Chemical process heating Waste combustion, etc. etc.usw.



ECOM® PRODUCTS – YOUR PARTNERS FOR:

BURNER DIAGNOSIS GAS LEAK DETECTION

FLUE GAS ANALYSIS PRESSURE MEASUREMENT

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ECOM-J2KNpro EXPERT

- PROFI MEASUREMENT PACKAGE
 FOR THE CONTROL & ADJUSTMENT
 OF MIDDLE- AND LARGE-SIZED
 COMBUSTION PLANTS
- DETACHABLE RADIO REMOTE
 CONTROLLER UNIT WITH COLOUR
 DISPLAY
- FITTED WITH O₂, CO, NO, NO₂ LONGLIFE GAS SENSORS
- CO SENSOR OVERLOAD PROTECTION
 & FRESH AIR PURGE WITHOUT
 MEASUREMENT INTERRUPTION
- INTEGRAL SOOT MEASUREMENT
- HEATED GAS SAMPLING PROBE
 Ø 10 MM, LENGTH 300 MM WITH
 3-CHAMBER NOX TUBING;
 LENGTH 3.5 M
- BRUSHLESS, LOW MAINTENANCE,
 HIGH-PERFORMING GAS PUMP
 FOR QUICK GAS CONVEYANCE.
- GAS COOLER WITH ELECRONIC LEVEL MONITORING & AUTOMATIC CONDENSATE EVACUATION
- INTEGRAL THERMAL QUICK-PRINTER
- BLUETOOTH LOW ENERGY –BLE-
- BACKLIT DISPLAY & KEYPAD
- HIGH-VALUE T-GAS PLUG
- LITHIUM-ION BATTERY
- ROBUST AND ULTRALIGHT ALUMINIUM HOUSING
- ROBUST TRANSPORT CASE,
 ALUMINIUM-FRAMED XL SIZE







	TA & FEATURI		DEL ✓= Standard O= 0	Option
MEASUREMENT	RANGE	RESOLUTION	ACCURACY	
Maximal amount of g	as sensors		*= Higher value prevails	6
O ₂	021 %	0,01 vol.%	± 0,3 vol. %	1
CO ppm (H ₂ -comp.)	04000 ppm	1 ppm	± 20 ppm / 5% measured value*	1
CO ppm (H ₂ -comp.)	010.000 ppm	1 ppm	± 20 ppm / 5% measured value*	•
NO	05000 ppm	1 ppm	± 5 ppm / 5% measured value*	1
NO ₂	01000 ppm	1 ppm	± 5 ppm / 5% measured value*	1
T-Gas	0500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	1
T-Air	099°C	1°C	±1°C	1
Pressure / ΔP	± 100 hPa	0,01 hPa	± 2%	1
Soot (integral)	09			1
CALCULATION			RANGE	
CO ₂			0CO₂max	1
Combustion efficienc	y (ETA)		0120%	1
Excess air (Lambda)			>1	1
Losses			0100%	1
CO _(U) undiluted			x ppm	1
Dew point			x°C	1
mg/m³			x mg/m³	1
mg/kWh			x mg/kWh	1
O ₂ reference			x %O ₂	1
GAS SAMPLING	GAS TEMPERATI	JRE MEASURE	MENT	
Sampling probe (SE	3), heated 300 mm	(1 ft.), Ø 10 mm	n, with thermocouple	1
			length 3,5 m (11.5 ft.)	1
Fixation cone with 1				1
High-value T-Gas p	lug			1
COMBUSTION AIR	SENSOR			
T-Room sensor (PT	2000) L = 10 cm (3.9 in.), cable ca	a. 3 m (10 ft.), magnet fixation, cone	1
DATA INDICATION		,		
Detachable monitor Frequency 868 MH: With magnet on the	z, coverage by free back for positionin	sight approx. 70 g at metal surfac		1
Keypad with alphan			, graphic-7200111-capable 6	1
DATA PRINTOUT	an in pactane			
Integral thermal qui	ck-printer paper w	idth 58 mm (2.2	in.)	1
Matrix printer 58 mr				
Address on protoco				1
DATA PROCESSIN		(via keypaa)		
	2002			1
Slot for MM card; da				4
Interface Bluetooth				
Wi-Fi interface (inst		coffware Minipa	, DAS.NT.2, DAS 5.01	1
	9			1
receiving Cananilli	for diagnostic data	a collected by ed	Copularia (Optional)	0
CONNECTIONS	50000			10.00
CONNECTIONS Multi-function interfa				1
CONNECTIONS Multi-function interfa USB interface for da	ata transfer			1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT G	ata transfer GAS PREPARATIO	5-00-0		1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT G Extra-quick gas trar	ata transfer SAS PREPARATIOnsport (quick availa	bility of measure		1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT G Extra-quick gas trar High performing gas	ata transfer GAS PREPARATIOnsport (quick availa s pump, brushless,	bility of measure low-maintenanc	e	1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT G Extra-quick gas trar High performing gas Gas cooler with ele	ata transfer GAS PREPARATIO Insport (quick availa Is pump, brushless, Insectronic monitoring	bility of measure low-maintenand and automatic c		1 1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT G Extra-quick gas trar High performing gas Gas cooler with ele Soot filter for addition	ata transfer GAS PREPARATIO Insport (quick availa Is pump, brushless, Insectronic monitoring	bility of measure low-maintenand and automatic c	e	1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT G Extra-quick gas trar High performing gas Gas cooler with ele Soot filter for addition	ata transfer GAS PREPARATIO Insport (quick availa Is pump, brushless, Insectronic monitoring	bility of measure low-maintenand and automatic c	e	1 1
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CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT O Extra-quick gas trar High performing gas Gas cooler with ele Soot filter for addition	ata transfer BAS PREPARATIO INSPORT (quick availa INSPORT (quick	bility of measure low-maintenanc and automatic c tering on battery 7,2 V / n (7.5 ft.)	ondensation evacuation 8 7 11,6 Ah with long operation time	1 1 1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT C Extra-quick gas trar High performing gas Gas cooler with ele Soot filter for addition POWER SUPPLY Power pack 230 V / Mains power cord le	ata transfer BAS PREPARATIO INSPORT (quick availa INSPORT (quick	bility of measure low-maintenanc and automatic c tering on battery 7,2 V / n (7.5 ft.)	ondensation evacuation 8 7 11,6 Ah with long operation time	1 1 1
CONNECTIONS Multi-function interfa USB interface for da MEASUREMENT C Extra-quick gas trar High performing gas Gas cooler with ele Soot filter for addition POWER SUPPLY Power pack 230 V / Mains power cord le Helix power cable (i	ata transfer BAS PREPARATIO Insport (quick availa Is pump, brushless, Is pump, br	bility of measure low-maintenanc and automatic c tering on battery 7,2 V / n (7.5 ft.)	ondensation evacuation 11,6 Ah with long operation time	1 1 1

ECOM-J2KNpro EXPERT | ALTERNATIVE

ecom-J2KNpro Expert, as 108005, but with MATRIX PRINTER - instead thermal printer

Item no. 108006

DATA RECORDING | ACCESSORY

MM CARD 2 GB

Item no. 102469



DATA TRANSFER | ACCESSORIES & OPTION

DATA CABLE USB, ANALYSER -> PC

- · For data transfer to PC
- · Length approx. 2 m (6.5 ft.)

Item no. 55818



WI-FI OPTION, instead of Bluetooth Low Energy Item no. 107203

8-CHANNEL ANALOG OUTPUT BOX (V / mA)

Connection box for external logging/recording units

- Dim.: approx. 165 x 85 x 30 mm (L x W x H)
- · Weight: approx. 0.3 kg
- · Incl. charger, cable to analyser, RS 232 cable, software

Item no. 101769



RADIO CONNECTION | ACCESSORY - OPTION

CONNECTION CABLE BASIC/CONTROL MODULE

- · In case of slight disturbed radio transfer
- · Length approx. 10 m (30 ft.)

Item no. 55604



RADIO TRANSFER AMPLIFICATION

Recommended by difficult or heavily disturbed radio transfer

 Optional foldable antenna at basic module, direct equipment

(Item no. 108207)



POWER SUPPLY | OPTION

HELIX MAINS POWER CABLE (inst. straight style) By longer distance measurement point / power source

(Item no. 104461)

SAMPLING SYSTEM | ALTERNATIVE

GRIP, PROBE TIP SB Ø 10 MM, CONE

LENGTH 350 MM (1.15 FT.) Item no. 107513 (1) LENGTH 500 MM (1.6 FT) Item no. 107515 (1) Item no. 107516 (1) LENGTH 700 MM (2.3 FT) LENGTH 1000 MM (3 FT) Item no. 107517 (1)

LENGTH 1500 MM (4.9 FT.) Item no. 107518 (1)

HIGH TEMPERATURE TIP Ø 10 MM

Application range up to 1100°C With high temperature fixation cone Ø 10 mm

LENGTH 750 MM (2.4 FT.) Item no. 101183 (1) LENGTH 1000 MM (3 FT) Item no. 30001303 (1)

LENGTH 1500 MM (4.9 FT) Item no. 101608 (1)

NO_X SAMPLING TUBING, 3-CH, WITH ODU PLUG

LENGTH 5,0 M (16.4 FT.) Item no. 106932 (1)

LENGTH 10,0 M (16.4 FT.) Item no. 107362 (1)







OPERATION SAFETY Automatic self-test during calibration phase Automatic CO switch-off (= sensor protection & prolongation of life span) Fresh air purge w/o. measurement interruption (= other values measured w/o. time loss) Fresh air purge after operation Pressure-compensated gas channel plate (optimized gas flow w/o. pressure fluctuation) Flow meter for optical control of pump performance Electronic condensation monitoring Longlife sensors Separate LCD display for monitoring & indication of operation stands of several elements like pump, probe heating, radio transfer quality as well as display of error messages. Electronic flow meter and monitoring. Automatic instrument switch-off by decreasing & insufficient pump performance. Toxic pollutants filter (NOx/SO2) for CO sensor TRANSPORT 0 Robust aluminium-framed transport case in XL size Comfort shoulder carrying strap Connection pieces for easy docking of optional undercase Undercase Trolley DIMENSIONS | WEIGHT | OTHERS Dimensions (W x H x D): approx. $510 \times 330 \times 250 \text{ mm}$ ($20 \times 12.9 \times 10 \text{ in.}$) Weight: approx. 14 kg (30.9) Calibration certificate, issued after instrument calibration into calibration chamber Tested and approved acc. to 1. BImSchV (O 2/CO/Temp./Pressure) and EN 50379-2 Aluminium housing with 10 years guarantee Admissible ambient temperature: +5... +40°C; max. 90 % rH, non-condensing Admissible storage temperature: -20... +50°C Fuel types: up to maximal 16 possible Recommended interval for check/maintenance: 1 year Item no. basic model 108050



SAMPLING SYSTEM | ACCESSORIES

HEAT PROTECTION SHIELD

- For probe tips SB/SU Ø 10 mm
- Material: AIMg³. Hole Ø 10 mm, with knurled screw
- Dimensions: approx. 195 x 120 x 1.5 mm $(7.6 \times 4.7 \times 0.05 in.)$
- Weight: approx. 90 g (3.1 oz.)

Item no. 101527



PROTECTION BAG

For probe tips (all types) up to 750 mm (2.4 ft.)

- · Material: fabrics
- Dimensions: approx. 86 x 7.5 x 3 cm (33.8 x 2.9 x 1.1 in.)
- · Weight: approx. 350 g (12.3 oz.)

Item no. 55991

OR ALTERNATIVELY:

For probe tips (all types) up to 1000 mm (3 ft.)

- · Material: fabrics
- Dimensions: approx. 102 x 7.5 x 3 cm (39.7 x 2.9 x 1.1 in.)
- Weight: approx. 570 g (19.95 oz.) Item no. 108236

FLEXIBLE PROBE TIP Ø 8 MM

For measurements at hardly accessible measurement openings

- · With fixation cone, special version
- · Flexible tubing
- Thermocouple
- · Tip screwable on probe grip SB/SU style
- Length 400 mm (1.3 ft)

Item no. 102353 (1)

(1) Because of its length this item is not storable in the standard case. For transport purposes, it must be detached and stowed separately

CONSUMABLES | FOR STOCK

Fine dust filter (pack of 10 pcs) Item no. 100568

Thermal printer paper roll Item no. 50513

Soot filter paper (pack of 200 pcs) Item no. 50515

NOx/SO₂ filter, large Item no. 52169



HEATING SPECIALIST – BURNER & BOILER INDUSTRY **ECOM-J2KNpro** EXPERT





TRANSPORT | ACCESSORIES & OPTION

UNDERCASE

Additional stowage for accessories/small parts

- · Dimensions: approx. 510 x 130 x 250 mm (20 x 5.1 x 10 in.)
- Weight: approx. 1.6 kg (3.5 pd.)
 With fixation for trolley (item no. 101274)

Item no. 101381

TROLLEY

For fixation at undercase

Item no. 101274

INDOOR CASE

Enables the instrument operation also by closed lid (max. 1 hour; surrounding temperature max. 45°C).

- · With swivelling carrying bow
- · Without counter-parts for undercase fixation
- · Lateral opening with pivoting flap for dust protection when instrument at rest
- · Opening suitable for 3-chamber or NOx tubing

Not suitable for outdoor applications.

(Item no. 108803)







AT MEASUREMENT | ACCESSORIES

CONTACT SENSOR T-ROOM (PT2000)

- Range: -20 to 100°C
- · Resolution: 0,1°C
- · Cable length: 3 m (10 ft.)

Item no. 12019

CONTACT SENSOR T-GAS (NI/CRNI)

- Range: -20 to 100°C
- · Resolution: 0,1°C
- . Measurement uncertainty: ± 1°C
- · Suitable for pipe Ø up to 100 mm (3.9 in.)
- · Cable length: 3 m (10 ft.)

Item no. 106982

FLOW VELOCITY / DYNAMIC PRESSURE

Internal hardware unit - enables the measurement (item doesn't cover any probe of random type)

- Range: 0-50 m / sec
- · Accuracy: ± 0,2 m/s or ± 1% of measurement value
- · Resolution: 0.1 m/s

Data valid by use of Prandtl / Pitot probe (not included in package - available from specialized trade).

(Item no. 108202)

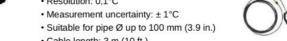
DYNAMIC PRESSURE PROBE*

- · Range: up to 3 m / sec
- · Accuracy: ± 2.5% of measuring range final value
- · Length: approx. 250 mm (9.8 in.)
- Tubing/cable approx. 2.5 m (8.2 ft.) & fixation cone
- * The offered item is not a Pitot tube.















SIMPLE & MODERN DATA MONITORING & TRANSFER WITH THE APP # ECOMMANDER

MEASURE | DISPLAY | RECORD | TRANSFER





Live display of measurement values



3. Spot and punctual measurements



3. Intuitive menu



3. Data of combustion plant



3. Customer data





3. Data related to service engineer



4. Creation of measurement protocols in practical PDF format

⊕ ECOMMANDER APP

SIMPLE CONNECTION

- Automatic identification of ecom instrument via wireless pairing
- Recording of last active connection
- Use not limited to a specific instrument

SIMPLE HANDLING

- Remote monitoring of measurement
- Start / stop of CO sensor purge
- Printout of measurement results
- Switch to stand-by mode

SMART DATA PROCESSING

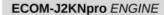
- Display of all measurement parameters
 Organisation of customer data
- Recording and management of measurement values
- Archiving and / or export of measurement values via PDF

Download free of charge









- PROFESSIONAL PACKAGE FOR LONG-LASTING MEASUREMENTS AT COGENERATION PLANTS
- DETACHABLE RADIO CONTROL
 MODULE WITH COLOUR DISPLAY
- FITTED WITH O₂, CO, NO, NO₂, LONGLIFE GAS SENSORS
- OPTIONAL PACKAGE H₂S / CH₄ FOR BIOGAS MEASUREMENT
- CO SENSOR OVERLOAD PROTECTION
 & FRESH AIR PURGE WITHOUT
 MEASUREMENT INTERRUPTION
- UNHEATED GAS SAMPLING PROBE
 Ø 8 MM, LENGTH 350 MM WITH NOX
 2-CHAMBER TUBING 3.5 M
 FIXATION CONE WITH MINI HEAT
 PROTECTION SHIELD
- T-ROOM STICK (INS. T-SENSOR)
- BRUSHLESS, LOW MAINTENANCE,
 HIGH-PERFORMING GAS PUMP
 FOR QUICK GAS CONVEYANCE.
- GAS COOLER WITH ELECTRONIC LEVEL MONITORING & AUTOMATIC CONDENSATE EVACUATION
- INTEGRAL THERMAL QUICK-PRINTER
- BLUETOOTH LOW ENERGY -BLE-
- BACKLIT DISPLAY & KEYPAD
- HIGH-VALUE T-GAS PLUG
- LITHIUM-ION BATTERY
- ROBUST AND ULTRALIGHT ALUMINIUM HOUSING; WITH 10 YEARS GUARANTEE
- ROBUST TRANSPORT CASE,
 ALUMINIUM-FRAMED XL SIZE
- HELIX POWER CORD
- INCL. MM CARD
- INCL. USB DATA CABLE









	TAGELATORI	ES BASIC MO	ODEL ✓ = Standard •	Option
MEASUREMENT	RANGE	RESOLUTION	ACCURACY	
Maximal amount of g	jas sensors		*= Higher value prevails	6
O ₂	021 %	0,01 vol.%	± 0,3 vol. %	1
CO ppm (H₂-comp.)	04000 ppm	1 ppm	± 20 ppm / 5% measured value*	1
CO ppm (H ₂ -comp.)	010.000 ppm	1 ppm	± 20 ppm / 5% measured value*	•
NO	05000 ppm	1 ppm	± 5 ppm / 5% measured value*	1
NO ₂	01000 ppm	1 ppm	± 5 ppm / 5% measured value*	1
H₂S	05000 ppm	1 ppm	± 50 ppm / 5% meas. value*	•
CH ₄	0100% vol.	0.1 vol.%	± 5% of meas. range end value	•
T-Gas	0500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	1
T-Air	099°C	1°C	± 1°C	1
Pressure / ΔP	± 100 hPa	0,01 hPa	± 2%	1
CALCULATION			RANGE	
CO ₂			0CO₂max	
) (ETA)		0120%	1
Combustion efficier			>1	1
Excess air (Lambda	x)			1
Losses			0100%	1
CO _(U) undiluted			x ppm	1
Dew point			x°C	1
mg/m ³			x mg/m³	1
mg/kWh			x mg/kWh	1
O ₂ reference			x %O ₂	1
GAS SAMPLING	GAS TEMPERATU	JRE MEASURE	EMENT	
Sampling probe (St	J), unheated 350 m	nm (1.1 ft), Ø 8	mm, with thermocouple	1
NOx sampling tubin	g, 2-chamber with	Teflon sleeve,	length 3,5 m (11.5 ft.)	1
Fixation cone with 1	Teflon protective rin	ig and <mark>mini hea</mark>	t protection shield 3	1
High-value T-Gas	plug		4	1
COMBUSTION AIR	RSENSOR			
T-Room stick			6	1
AND AND ADDRESS OF THE PARTY OF	I / INPUT			
DATA INDICATION Detachable monitor Frequency 868 MH	ing/controlling mod z, coverage by free	sight approx. 7	6 0 m (70 yds.)	1
DATA INDICATION Detachable monitor Frequency 868 MH. With magnet on the	ing/controlling mod z, coverage by free back for positionin	sight approx. 7 g at metal surfa	0 m (70 yds.)	1
DATA INDICATION Detachable monitor Frequency 868 MH With magnet on the LCD colour display	ing/controlling mod z, coverage by free back for positionin 78 x 58 cm, 320 x	sight approx. 7 g at metal surfa 240 dots, backli	0 m (70 yds.) aces it, graphic-/zoom-capable	1
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GAS SENSORS | OPTIONS

SO₂ MEASUREMENT, 0-5000 PPM

(Item no. 101504)

Mainly needed by measurement at oil engines.

SO₂ MEASUREMENT, 0-5000 PPM (LOW CO) (1)

(Item no. 108548)

CxHy 0-4% VOL, CATALYTIC

(Item no. 101561)

Mainly needed by measurement at wood carburettor engines.

BIOGAS ANALYSIS | OPTIONAL PACKAGE

See last nage.

RADIO CONNECTION | ACCESSORY - OPTION

CONNECTION CABLE BASIC/CONTROL MODULE

- In case of slight disturbed radio transfer
- · Length approx. 10 m

Item no. 55604



RADIO TRANSFER AMPLIFICATION

Recommended by difficult or heavily disturbed radio transfer

 Optional foldable antenna at basic module, direct equipment

(Item no. 108207)



DATA TRANSFER | OPTION

WI-FI OPTION, instead of Bluetooth Low Energy

(Item no. 108193)

TRANSPORT | ACCESSORIES

UNDERCASE

Additional stowage for accessories/small parts

- Dimensions: approx. 510 x 130 x 250 mm
 (20 x 5 1 x 10 in)
- (20 x 5.1 x 10 in.)
 Weight: approx. 1.6 kg (3.5 pd.)
- · With fixation for trolley (item no. 101274)



TROLLEY

For fixation at undercase

Item no. 101274



SAMPLING SYSTEM | ALTERNATIVE

HIGH TEMPERATURE TIP Ø 10 MM

Application range up to 1100°C With high temperature cone Ø 10 mm

with high temperature	3 00110 22 20 111111
LENGTH 750 MM	Item no. 101183 (1)
LENGTH 1000 MM	Item no. 30001303 ⁽¹⁾
LENGTH 1500 MM	Item no. 101608 (1)

NO_X TUBING, 2-CHAMBER, ODU PLUG

LENGTH 5,0 M Item no. 30002329 (1)

 $^{^{(1)}}$ Because of its length this item is not storable in the standard case. For transport purposes, it must be detached and stowed separately.





Heated gas channel plate for avoidance of moisture formation	1
Internal air pressure sensor (range 300 to 1100 hPa)	1
Temperature trend indication for stream core search	1
Automatic self-test during calibration phase	1
Automatic CO switch-off (= sensor protection & prolongation of life span) Fresh air purge w/o. measurement interruption (= other values measured w/o. time loss)	1
Fresh air purge after operation	1
Pressure-compensated gas channel plate (optimized gas flow w/o. pressure fluctuation)	1
Flow meter for optical control of pump performance	1
Electronic condensation monitoring	1
Longlife sensors	1
Separate LCD display for monitoring & indication of operation stands of several elements like pump, probe heating, radio transfer quality as well as display of error messages. Electronic flow meter and monitoring. Automatic instrument switch-off by decreasing & insufficient pump performance.	1
Toxic pollutants filter (NOx/SO ₂) for CO sensor	1
TRANSPORT	
Robust aluminium-framed transport case, XL size	1
Comfort shoulder carrying strap	1
Connection pieces for easy docking of optional undercase	1
Undercase	•
Trolley	•
DIMENSIONS WEIGHT OTHERS	
Dimensions (W x H x D): approx. 510 x 330 x 250 mm (20 x 12.9 x 10 in.)	
Weight: approx. 14 kg (30.9 pd.)	
Weight, approx. 14 kg (50.9 pd.)	1
Calibration certificate, issued after instrument calibration into calibration chamber	1
	1
Calibration certificate, issued after instrument calibration into calibration chamber	42
Calibration certificate, issued after instrument calibration into calibration chamber Tested and approved acc. to 1. BImSchV (O 2/CO/Temp./Pressure) and EN 50379-2	
Calibration certificate, issued after instrument calibration into calibration chamber Tested and approved acc. to 1. BImSchV (O 2/CO/Temp./Pressure) and EN 50379-2 Aluminium housing with 10 years guarantee	
Calibration certificate, issued after instrument calibration into calibration chamber Tested and approved acc. to 1. BImSchV (O 2/CO/Temp./Pressure) and EN 50379-2 Aluminium housing with 10 years guarantee Admissible ambient temperature: +5 +40°C; max. 90 % rH, non-condensing	×

SAMPLING SYSTEM | ACCESSORIES

PROTECTION BAG

For probe tips (all types) up to 750 mm (2.4 ft $^{\circ}$

- · Material: fabrics
- Dimensions: approx. 86 x 7.5 x 3 cm (33.8 x 2.9 x 1.1 in.)
- · Weight: approx. 350 g (12.3 oz.)

Item no. 55991

For probe tips (all types) up to 1000 mm (3 ft.)

· Material: fabrics

OR ALTERNATIVELY:

- Dimensions: approx. 102 x 7.5 x 3 cm (39.7 x 2.9 x 1.1 in.)
- · Weight: approx. 570 g (19.95 oz.)

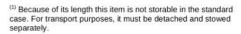
Item no. 108236

FLEXIBLE PROBE TIP Ø 8 MM

For measurements at hardly accessible measurement openings

- · With fixation cone, special version
- Flexible tubing
- Thermocouple
- Tip screwable on probe grip SB/SU style
- · Length 400 mm

Item no. 102353 (1)



Item no. 100568
Item no. 50513
Item no. 50515
Item no. 50508
Item no. 52169

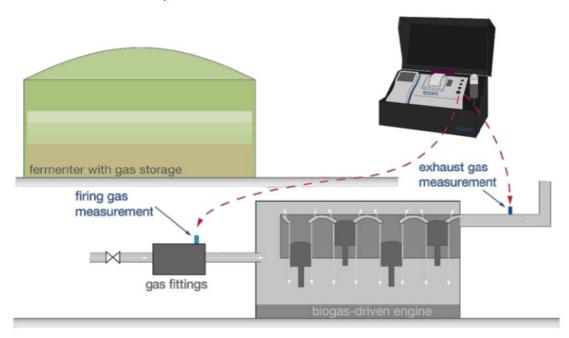








MEASUREMENT OF BIOGAS | APPLICATION FIELD



COMPLETE MEASURING PACKAGE CONSISTING OF:

- H₂S sensor, electrochemical, measuring range 0-5000 ppm
- · CH₄ sensor, infrared, measuring range 0-100%
- · Viton sampling tubing, length approx. 3 m (10 ft.)

Item no. 106755|106756

COMPONENTS OTHERWEISE AVAILABLE SEPARATELY:

CH₄ sensor, 0-100%

Item No. 107342

Viton tubing, approx. 3 m

Item no. 106756

THE SHORT VIDEOS ON OUR YouTube CHANNEL OUTLINE IN ENTERTAINING MANNER THE UNIQUE SELLING POINTS OF









THE PORTABLE ECOM® FLUE GAS ANALYSERS - SIMPLY VIEW THEM WHILE CLICKING ON THE ABOVE LINK!

FOCUSED APPLICATION RESPECTIVELY USER PROFILE ECOM FLUE GAS ANALYSERS





SERVICE ORGANISATIONS & FACILITY-MANAGEMENT

Maintenance & adjustment of home smaller boilers. Manufacturers of smaller boilers; Facility Management (building maintenance companies).

Service divisions with many technicians.



BURNER & BOILER MANUFACTURERS Companies manufacturing resp. maintaining larger boiler and burner. Service divisions with lots of technicians.



COGENERATION

Companies manufacturing resp. maintaining engines or combined heat and power plants. An exact NO_x measurement is of specific importance in this sector.



OIL & GAS Raw material producton Transport Processing



INDUSTRIAL APPLICATIONS
Mining
Foundries
Cement factories
Cookery plants
Chemical process heating
Waste combustion, etc.

etc.usw.



ECOM® PRODUCTS – YOUR PARTNERS FOR: BURNER DIAGNOSIS GAS LEAK DETECTION FLUE GAS ANALYSIS PRESSURE MEASUREMENT

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POINT AND DEALER ON:

WWW.ecom.de

READ-OUT HEAD FOR BURNER CONTROLLERS







WHY A READ-OUT HEAD FOR BURNER CONTROLLERS?

The manufacturers of burner controllers Honeywell-Satronic and Siemens-Landis & Staefa increasingly move towards digital technology.

Analogue burner controllers at combustion plants get gradually replaced by digital models. The devices are fitted with an information system monitored by a microprocessor which shows the burner's most important processes as blink codes at the trouble-shooting button.

Information like operation stand, disturbance source, error history, flame signal and operation voltage are retrievable.

With the read-out head ecom-AK all these information can be accessed and illustrated on the integral graphic.

WHICH DATA DOES THE HEAD READ-OUT?

The burner diagnosis gets simplified as follows.

1. Once the burner controller type is identified, the operation stand of the burner is illustrated graphically. This way the burner's operation course can easily be controlled.

Automat DKO 972 / 22 於 哦 夕 四 回 2.3µA 231V

- 2. The flame signal is displayed and compared to the minimal value. A time-consuming wiring at the monitoring device socle is made herewith superfluous.
- 2.2µA 於 IS 1.2µA 於 MIN
- 3. The difference between flame recognition and safety time end is displayed. This value enables to evaluate if the flame immediately forms or with delay (disturbance risk).
- Rest time TSA 3.9 sec
- 4. The current disturbance source as well as 2 (resp. 5 by Siemens) previous ones is displayed as a text. The error can quickly be isolated and a time-consuming error tracking is avoided.
- Current error Flame signal during straylight check!
- 5. The disturbance sources are statistically recorded and grouped. Besides the sum of all disturbances also the frequency of disturbance sources like e.g. "No flame end TSA" are listed. Conclusions on critical components or settings can be drawn out of this data.
- Total Number 39 Safty time Number
- 6. The number of burner starts gives information about the plant capacity. Too frequent starts per heating period outline an over-sizing of the plant.
- Start-ups counter 664
- 7. All relevant monitoring times of the firing automats are retrievable.

ECOM-AK

PRODUCT ADVANTAGES:

- QUICK IDENTIFICATION OF **ERROR SOURCE**
- TARGETED REPAIR
- TIME SAVINGS
- PROFESSIONAL IMPRESSION LEFT TO CUSTOMER
- HIGHER CUSTOMER RETENTION

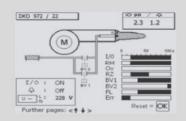






The display of the ecom-J2KNpro reflects the sampled by the ecom-AK

Number of startups total Service counter actual			677 142	
No еггог				
No flame at the of safty time	e end		004 0.0 µA	9:23 min 227 V
Flame signal d straylight chec			001 2.2 μA	12 sec 225 V
Total	1	46		
Straylight	1.0	22		
Safty time	4	9		
Loss of flame FT/LW		17		



Burner operation stand with course display (displayed on the analysers ecom-D, ecom-EN3 & ecom-J2KNpro)



ECOM-AK READ-OUT HEAD FOR BURNER CONTROLLERS

Read-out and indication of trouble sources, error history, flame signal and operation voltage of burner controllers and data transfer to flue gas analyser of the ecom-D, ecom-EN3 and ecom-J2KNpro range further processing & printout.

Also usable as stand-alone device!

BURNER CONTROLLER MODELS IDENTIFIED BY THE ECOM-AK				
DKO 970	DIO 974	DMG 972	SH 11x	DKO 972-N
DKO 972	DIO 976	DMG 973	SH 21x	DKO 974-N
DKO 974	DKG 970	DMG 991	SH 21x	DKO 976-N
DKO 976	DKG 972	DVI 980	SH 23x	DKO 992-N
DKO 992	DLG 974	DVI 982	SG 11x	DKO 996-N
DKW 972	DLG 976	LME	SG 51x	
DKW 976	DMG 970	LMG	SG 13x	
DMO 976	DMG 971	LMO	DKO 970-N	

Power supply:	2 batteries type AA 1.2V or type AA 1.5 V
Power consumption:	approx. 100 mA
Storage temperature:	-20°C to +50°C
Operating temperature:	-20°C to +50°C
Dimensions:	approx. 88 x 41 x 32 mm (3.4 x 1.6 x 1.2 in.)
Weight:	approx. 150 g (5.3 oz.) with batteries
Delivery:	Incl. protection pouch, 2 batteries and connection cable (approx. 2 m) for data transfer at analyser

Item no. 107347



ecom-AK in real size

DATA TRANSFER | ACCESSORY

DATA CABLE ECOM-AK -> PC

- For the transfer of the data sampled by the read-out head to a PC/Laptop.
- · Length approx. 2 m (6.6 ft.)

Item no. 10198





AKPC



ECOM® PRODUCTS – YOUR PARTNERS FOR:

BURNER DIAGNOSIS GAS LEAK DETECTION

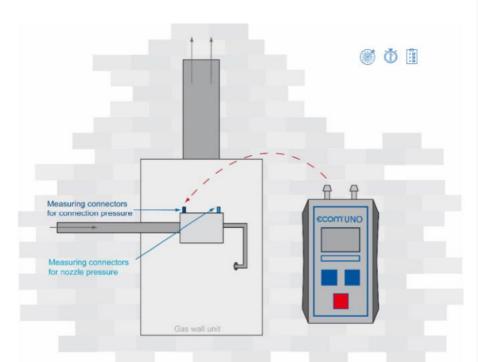
FLUE GAS ANALYSIS PRESSURE MEASUREMENT

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POINT AND DEALER ON:
www.ecom.de

PRESSURE & DIFFERENTIAL PRESSURE MEASUREMENT







TECHNICAL DATA ECOM-UNO DIFFERENTIAL PRESSURE METER Adjustment of gas burners: Device connecting pressure (flow pressure) · Nozzle pressure (flow pressure) Applications: · Gas operation pressure (plant pressure) · Idle pressure 0- 200 hPa | 0-2038 mmH₂O | 0- 2,9 PSI | 0-150 mmHg 4 switchable units: Automatic range switch Measurement ranges: 0- 200 hPa | 0-2038 mmH₂O | 0- 2,9 PSI | 0-150 mmHg Resolution: 0,01 hPa | 0,01 mmH2O | 0,01 PS | 0,01 mmHg Overload: 300 hPa | 3060 mmH₂O | 4,35 PSI | 225 mmHg Accuracy: ± 1% of measuring range end value Warm-up time approx. 3 minutes 2 one-way batteries type AA 1.5V (Mignon) Power supply: Power consumption: approx. 20 mA Storage temperature 20°C to +70°C Operating temperature: 0°C to +40°C Power supply: 2 one-way batteries type AA 1.5V (Mignon) Integral magnet for positioning at metal surfaces Positioning: Approx. 106 x 64 x 28 mm (4.1 x 2.5 x 1.1 in.) **Dimensions** Weight: approx. 150 g (with batteries) Delivery: Incl. 2 silicone hoses, length approx. 70 cm (2.3 ft.) Incl. 2 reduction parts Incl. storage/protection pouch with belt loop Material / Colour: fabrics, black Dim.: approx. 160 x 120 x 45 mm (6.3 x 4.7 x 1.7 in.) Weight: approx. 50 g (1.7 oz.)

Item no. 102108

ECOM® PRODUCTS – YOUR PARTNERS FOR:

BURNER DIAGNOSIS GAS LEAK DETECTION

FLUE GAS ANALYSIS PRESSURE MEASUREMENT

FIND YOUR ECOM® SALES POINT AND DEALER ON: www.ecom.de

ECOM-UNO

- DIFFERENTIAL PRESSURE
 MEASUREMENT IN POCKET SIZE
- MEASURING RANGE 0-200 hPa
- 4 SWITCHABLE UNITS:
 hPa | mmH₂O | PSI | mmHg
- WITH MAGNET FIXATION
- INCL. PROTECTION POUCH





ecom-UNO in real size

PRESSURE & DIFFERENTIAL PRESSURE MEASUREMENT



	Adjustment of see humans
Applications:	Adjustment of gas burners: Device connecting pressure (flow pressure) Nozzle pressure (flow pressure) Gas operation pressure (plant pressure) Idle pressure
Pressure sensor amount in basic version:	1 pressure sensor
Measuring range:	0-1500 hPa 0-1530 cmH $_{\rm 2}O$ 0-1125 mmHg 0-21 PSI 0-600 "H $_{\rm 2}O$ 0-44 "Hg
Resolution:	0,1 hPa 0,1 cmH ₂ O 0,1 mmHg 0,01 PSI 0,1 "H ₂ O 0,01 "Hg
Overload:	4000 hPa 4080H ₂ O 3000 mmHg 58 PSI 1600 "H ₂ O 118 "Hg
Accuracy:	± 3% of measured value
Number of optional sensors:	1 pressure sensor
Measuring range:	0-70 hPa 0-71 cmH $_2$ O 0-52 mmHg 0-1 PSI 0-28 "H $_2$ O 0-2 "Hg
Resolution:	0,01 hPa 0,01 cmH ₂ O 0,01 mmHg 0,001 PSI 0,01 "H ₂ O 0,001 "Hg
Overload:	200 hPa 204 cmH ₂ O 150 mmHg 2,9 PSI 80 "H ₂ O 5,9 "Hg
Accuracy:	± 3% of measured value
Indication:	Graphic display with window approx. 43 x 28 mm Resolution 128 x 64 Pixels
Power supply:	3 customary one-way batteries 1.5V AA (Mignon) or 3 rechargeable batteries 1.2V AA NiMh (metal hydride)
Battery charging:	Battery charging and instrument operation via customary USB charger possible
Ambient temperature:	0°C to 50°C
Operation temperature:	0°C to +40°C
Positioning:	Integral magnet for positioning at metal surfaces
Data transfer:	PC software DP-Logger (download from www.ecom.de)
Dimensions:	Approx. 170 x 75 x 35 mm (6.7 x 2.9 x 1.3 in.)
Weight:	Approx. 300 g (10.5 oz.)
Delivery:	Incl. 2 PU connection hoses with quick-fitting couplings, 3 one-way batteries and operation manual







ECOM-DP

- DIFFERENTIAL PRESSURE METER
- BASIC VERSION WITH ONE SENSOR 0-1500 hPa OPTIONAL EXTENSION WITH A 2ND PRESSURE SENSOR
- 6 ADJUSTABLE UNITS: hPa | cmH₂O | mmHg | PSI | "H2O | "Hg
- MIN./MAX. FUNCTION (RECORDING OF LOWEST RESP. HIGHEST MEASUREMENT VALUE)
- FREEZING FUNCTION (MANUAL RECORDING OF A SPECIFIC VALUE)
- ADJUSTABLE DAMPING
- DATA RECORDING AND DATA LOGGING (VIA PC SOFTWARE)
- FIXATION MAGNET ON BACK SIDE





ECOM







Subject to technical changes and possible design variations 07/2020



PRESSURE & DIFFERENTIAL PRESSURE MEASUREMENT

VARIANTS AT CHOICE



ECOM-DP WITH 1 SENSOR 0-1500 HPA

· With 2 PU connection hoses with quick-fitting couplings

Item no. 3140131

ECOM-DP WITH 2 SENSORS 0-1500 HPA

As 3140131 but with 4 PU connection hoses with quick-fitting couplings

Item no. 3140232

ECOM-DP WITH EACH 1 SENSOR 70 AND 1500 HPA

· As 3140131 but with 4 PU connection hoses with quick-fitting couplings

Item no. 3140233

DATA OUTPUT / TRANSFER | ACCESSORY

ECOM-P, INFRARED THERMAL PRINTER

For documentation of the measured values

- · Weight: approx. 350 g (12.3 oz.)
- Dim.: approx. 77 x 77,5 x 40 mm (3 x 3 x 1.5 in.)
- Delivered with 1 paper roll & batteries

Item no. 104630

TRANSPORT | ACCESSORY

TRANSPORT CASE

- · Material: plastics
- · Foam inlay with storage compartments for ecom-DP, spare batteries, IR printer, 2 printer rolls, USB charger, hoses
- · Cover foam inlay slightly swivelling to enable documents storage
- Dim.: appr. 380 x 275 x 80 mm (15 x 10.8 x 3.1 in.)
- · Weight: approx. 1.0 kg (2.2 pd.)

Item no. 107346

POWER SUPPLY | ACCESSORY

BATTERY 2100 MAH 1.2V AA

· For DP pressure meter, instead of one-way battery (3 pieces needed)

Item no. 53084







(View with content)

ECOM® PRODUCTS - YOUR PARTNERS FOR:

BURNER DIAGNOSIS GAS LEAK DETECTION FLUE GAS ANALYSIS PRESSURE MEASUREMENT

Dystrybucja i serwis: ATUT Sp. z o.o. ul. Prusa 8, 20-064 LUBLIN tel./fax: 81 740 33 45

e-mail:info@atut.lublin.pl; www.atut.lublin.pl

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