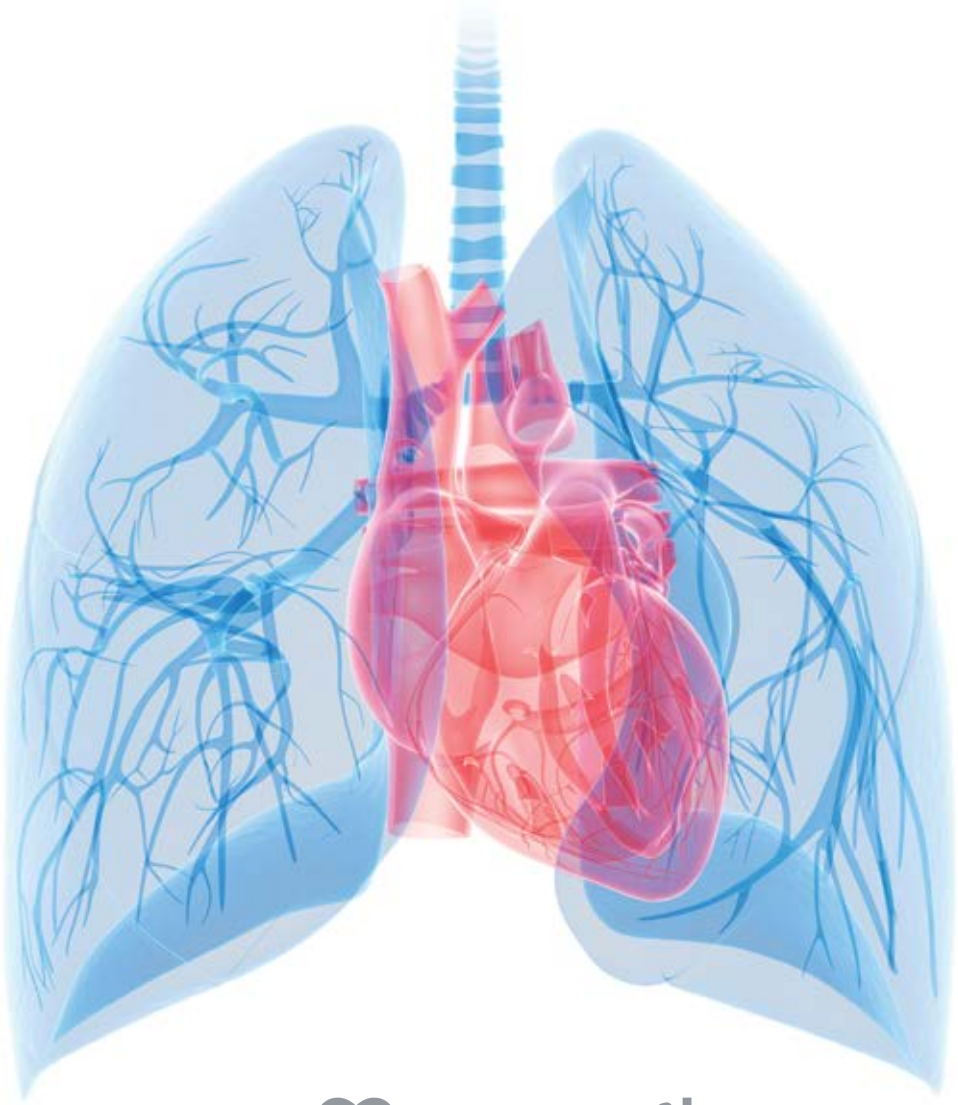
EUROSETS

LANDING

DEFINING OPTIMAL PERFUSION DURING CPB and MONITORING ECMO



CARDIOPULMONARY

ECLS

CPB OPTIMIZATION & ECMO MONITORING

Oxygen Delivery
Oxygen Delivery Index
DO_2 DO_2I

Oxygen Consumption
Oxygen Consumption Index
VO_2 VO_2I

Oxygen Extraction Ratio
O_2ER

Systemic Vascular Resistance
Systemic Vascular Resistance Index
SVR SVRI

Mean Arterial Pressure
MAP

Auxiliary Temperature
T Aux

Cardiac Index
C.I.

Gas Flow Sweep Gas Flow

CO_2 % Exhausted CO_2%

$V'O_2$ ML Membrane Lung Oxygen Contribution

$V'CO_2$ ML Membrane Lung CO_2 Contribution

$V'CO_2$ NL Native Lung CO_2 Contribution

CO_2 RNL Native Lung behaviour vs total CO_2

C.O. Cardiac Output

$V'CO_2$ Tot Total CO_2

P Drain Negative Suction Pressure

SaO_2 Arterial O_2 Saturation

Q blood Pump Flow

T Art Arterial Temperature

SvO_2 Venous O_2 Saturation

Hb Hemoglobin

T Ven Venous Temperature

P IN Pre-Membrane Pressure

P OUT Post-Membrane Pressure

△P Pressure Drop

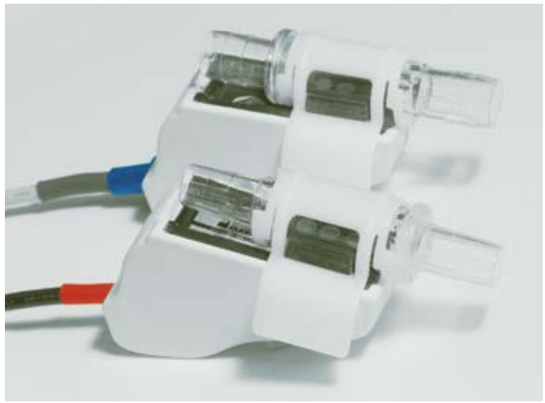
LANDING

LANDING is a monitor able to show real time 21 parameters updated every 5 seconds with the aim to help Physicians maintaining aerobic Patient's condition during CPB preventing prospective organs failure as Hyperlactatemia.

The parameters are measured with the following technology:
- spectrophotometric sensors
- infrared sensors
- ultrasound flow meter.

Landing uses a non invasive Polycarbonate cuvettes assuring accuracy and reliability over time.

Procedures recorded can be downloaded via USB or HL7 protocol, besides, a dedicated Data Management Software is available.



DATA OUTPUT:
USB - HL7

TECHNICAL DATA	VENOUS PROBE	ARTERIAL PROBE
SO_2 measurement method	Spectrophotometric	
Temperature measurement	Infrared sensor	
Size (H x W x D)	45 x 80 x 28 mm	
Weight	50 g	
Cable lenght	180 cm	
Connectors sizes	1/2"; 3/8"; 1/4"	3/8"; 1/4"

TECHNICAL DATA	FLOW SENSOR EM-TEC
Blood Flow measurement method	Ultrasound
Size (H x W x D)	25 x 33 x 45 mm
Weight	100 g
Cable lenght	290 cm
Connectors sizes	3/8" x 3/32"; 1/4" x 3/32"; 1/4" x 1/16"

TECHNICAL DATA	LANDING
Dimension (H x W x D)	220 x 290 x 85 mm
Weight (including holder)	approx. 3,7 kg
Power supply	100 - 243 VAC, 47/63 Hz
Battery runtime	approx. 30 min
Display module	10,4" TFT touchscreen
Resolution	800 x 600 pixel
Update frequency	arterial and venous every 5 sec
Interface	1 LAN
	1 USB port for data export
	1 USB port for software update

MEASURED PARAMETER	MODE	UNIT	RANGE
SaO_2	**CPB/ECMO**	%	10 - 100
SvO_2	**CPB/ECMO**	%	10 - 100
Q Blood	**CPB/ECMO**	l/min	0,1 - 8,0
Hb	**CPB/ECMO**	g/dl	5 - 16
Ta	**CPB/ECMO**	°C (convertible in °F)	4 - 42
Tv	**CPB/ECMO**	°C (convertible in °F)	4 - 42
P in	**CPB/ECMO**	mmHg (convertible in kPa)	-100 - 800
P out	**CPB/ECMO**	mmHg (convertible in kPa)	-100 - 800
MAP	**CPB**	mmHg (convertible in kPa)	0 - 800
P Drain	**ECMO**	mmHg (convertible in kPa)	-150 - 200
T Aux	**CPB**	°C (convertible in °F)	4 - 42
GF (Gas Flow)	**ECMO**	l/min	0,2 - 20
CO_2%	**ECMO**	%	0,2 - 8,0

CALCULATED PARAMETER	MODE	UNIT	RANGE
DO_2	**CPB**	ml/min	300 - 900
VO_2	**CPB**	ml/min	10 - 300
O_2ER	**CPB**	%	5 - 50
SVR	**CPB**	dyne*sec/cm^5	600 - 2500
C.I.	**CPB**	l/min/m^2	0,5 - 6
DO_2i	**CPB**	ml/min/m^2	100 - 500
VO_2i	**CPB**	ml/min/m^2	10 - 150
SVRi	**CPB**	dyne*sec/cm^5/m^2	100 - 5000
ΔP	**CPB/ECMO**	mmHg (convertible in kPa)	0 - 800
B.S.A.	**CPB**	m^2 (convertible in ft^2)	0,5 - 3,2
$V'O_2ML$	**ECMO**	ml/min	0 - 400
$V'CO_2ML$	**ECMO**	ml/min	0 - 500
CO_2RNL	**ECMO**	%	10 - 90
$V'CO_2Tot$	**ECMO**	ml/min	0 - 500

EXTERNAL DATA*	MODE	UNIT	RANGE
$V'CO_2NL$	**ECMO**	ml/min	0 - 500
C.O.	**ECMO**	l/min	0 - 20

*Taken from ventilator or other devices

Treatment of acute Respiratory and Heart Failure

Thanks to a dedicated CO_2 detection set, LANDING assists Physicians during long term support:

- in a V-V ECMO Landing displays the interdependency between Native Lung and Membrane Lung
- in a V-A ECMO Landing helps to maintain Patient's physiologic parameters
- in a V-A-V ECMO Landing helps monitoring the performance related to respiratory support.

CO_2 DETECTION SET

The CO_2 detection device has been specifically designed and developed for long term application and it measures:
1 - sweep gas
2 - exhausted CO_2 leaving the oxygenator module.

The technology involved assures that condense does not alter the reading accuracy over the time.

TECHNICAL DATA	GAS FLOW METER	CO_2 METER
Measurement method	Thermopiles	Infrared
Connectors size	1/4" x 1/16"	3/8" x 1/16"
Dimension (H x W x D)	120 x 120 x 60 mm	
Weight (including holder)	250 g	~ 300 g

A dedicated screen menu represents the **oxygenator performance overtime.**

latest acquisition

previous acquisitions

acquisition frequency
- 2 min
- 5 min
- 15 min
- 30 min
- 60 min

ORDERING GUIDE

Code	Description		n./pack
EU5052	**LANDING MONITOR**		1
EU1872	ARTERIAL PROBE		1
EU1873	VENOUS PROBE		1
EU1900	CLAMP ON TRANSDUC. SCT 3/8" x 3/32" (FLOW METER EM-TEC)		1
EU1869	POWER SUPPLY		1
MX960P1	REUSABLE PRESSURE TRANSDUCER		2
MX260	HOLDER FOR REUSABLE PRESSURE TRANSDUCER		2
EU6593	CONNECTING CABLE MEDEX-LANDING		2
MP111	TRANSDUCER HOLDER BACK PLATE		1
65050	METALLIC CLAMP		1
EU6592	CONNECTING CABLE EDWARDS-LANDING		1
EU5075	**CO_2 DETECTION SET**		
EU10431	POWER AND COMMUNICATION CAPNOMETER		
EU10388	CAPNOMETER-GAS FLOW METER		
EU10411	POWER SUPPLY (for LANDING ECMO)		
EU3964	SET GAS ESCAPE/CAPNOMETER		10

OPTIONALS

EU1517	TEMPERATURE PROBE YSI (for oxygenator and cardioplegia heat exchanger)	1
EU1901	CLAMP ON TRANSDUC. SCT 1/4" x 3/32" (FLOW METER EM-TEC)	1
EU10409	CLAMP ON TRANSDUC. SCT 1/4" x 1/16" (FLOW METER EM-TEC)	1

SINGLE USE

EU3863	VENOUS CUVETTE 1/2" - 1/2" (3 boxes - 15 pcs/box)	45
AG3863	VENOUS CUVETTE 1/2" - 1/2" COATED (3 boxes - 15 pcs/box)	45
EU3864	ARTERIAL AND VENOUS CUVETTE 3/8" - 3/8" (3 boxes - 15 pcs/box)	45
AG3864	ARTERIAL AND VENOUS CUVETTE 3/8" - 3/8" COATED (3 boxes - 15 pcs/box)	45
EU3874	ARTERIAL AND VENOUS CUVETTE 1/4" - 1/4" (3 boxes - 15 pcs/box)	45
AG3874	ARTERIAL AND VENOUS CUVETTE 1/4" - 1/4" COATED (3 boxes - 15 pcs/box)	45

Rev. 2019/01

STERILE EO CE 0123 Latex free

Prodotto da
Manufactured by
Fabriquè par
Hersteller
Fabricado por

Eurosets s.r.l.
Strada Statale 12, n°143
41036 Medolla (MO) Italy
Tel: +39 0535 660311
Fax: +39 0535 51248
E-mail: info@eurosets.com
www.eurosets.com

Distribuito da
Distributed by
Distribuè par
Vertrieb
Distribuido por