

# ***OnBoard generators***

***Top technology for automotive solutions***



# Welcome OnBoard

OnBoard generators for automobiles

## Limitless freedom – mobile power generation available onboard

Supply of reliable power generation while travelling is a challenge which only experts can meet. The »**OnBoard**generator« series from ENDRESS offers a range of built-in devices which were specially designed for operation in vehicles (commercial or private).

Decades of experience in the development and manufacturing of mobile generators has seen ENDRESS develop as the preferred partner for automobile manufacturers in the area of civil protection units.



## ENDRESS – leading in mobile power generators

**Futuristic technology through in-house development and production.**

Decades of experience in the development and manufacturing of generators, guarantee highest quality and absolute reliability. With a power output of up to 2,500 kVA, Endress can cover every need. Innovative special devices for fire brigades, disaster control, and emergency services or the fulfilment of special requirements in the project business, belong likewise to the program as floodlight installations and generators for the emergency power supply.



# highest performance

Top technology for mobile applications

## The alternator...

The most important component in a power generator is, without doubt, the alternator. It provides the energy to you in your vehicle. But: There are alternators are not all the same!

ENDRESS offers you 3 different alternator technologies to choose from, which will provide you with the highest outputs.



### *classic*

The alternator is constructed according to Protection Class IP23. Cooling air is sucked in from the outside and led through the alternator.

### *DUPLEX*

The alternator is constructed according to Protection Class IP54. Wear and maintenancefree, controlled electronically.

### *DUPLEX water-cooled*

The alternator is constructed as a completely sealed unit. Cooling occurs by means of a cooling water circuit. The noise emission is again removed significantly (obtainable as of 4th Quarter 2013).

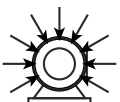
## A huge advantage: DUPLEX & DUPLEX water-cooled



electronic control of the voltage  
for sensitive consumers  
(electronics)



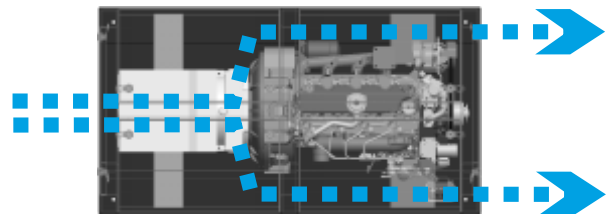
4-fold starting current for air  
conditioning units, compress-  
ors or other inductive consum-  
ers



IP54 – spray water protected for  
increased security and less  
wear. No maintenance of the  
alternator necessary!

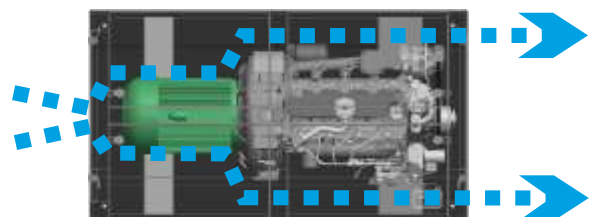


Turbulent flow for optimal,  
wearfree cooling of the  
alternator and strong noise  
reduction



### **Standard IP23 Alternator**

Cooling air is pulled through the  
alternator. Dirt and rust is deposited in  
the alternator, in particular on  
maintenance parts such as collector  
rings and bearings. An increased need  
for maintenance arises.



### **DUPLEX IP54 alternators**

Cooling air is drawn in from the outside  
past the alternator. No dirt or rust can  
enter into the alternator.

**A maintenance-free system is created!**



# Service-oriented

User and maintenance-friendly design

## Userfriendly control system

### E-MCS 5.0

- full control of the power generator
- monitoring of the oil pressure in the engine with automatic switching off when the oil pressure is too low
- monitoring of the battery charge and battery voltage
- monitoring of the voltage and frequency of the alternator
- integral operating hours counter
- error memory for the last 10 errors which occurred
- the control system can be installed at any desired location in the vehicle



## The highest demands on maintenance and servicing-friendliness

- large maintenance openings allow simple and rapid access to all components
- the generator unit can be fully slid out of the vehicle over a pull-out slide (optionally available)
- the DUPLEX alternator is maintenance-free up to 20,000 operating hours
- a clever air guide ensures that the components are optimally cooled and also reduces maintenance intervals

## Absolute quiet – low-noise operation



The **ENDRESS Turbulent-Flow Principle** was specially developed for power units which must provide particularly low-noise operation.

An intelligent air flow for cooling of the assemblies allows noise emissions to be kept to a minimum – allow yourself to be inspired by the quietest power generator in its class.



# ESE 6 Silent

Entry into mobile energy



Type	ESE 6 Silent classic	ESE 6 Silent DUPLEX	ESE 6 Silent DUPLEX water-cooled
Type Nr.	8060200	8060201	8060202
Engine	Kubota Z482	Kubota Z482	Kubota Z482
Design	2-cylinder Diesel	2-cylinder Diesel	2-cylinder Diesel
Cooling system	Water	Water	Water
Displacement (cm <sup>3</sup> )	480	480	480
P continuous (kW)	6,5	6,5	6,5
P stand-by (kW)	7,4	7,4	7,4
RPM (min-1)	3000	3000	3000
Speed governor	mechanical	mechanical	mechanical
Alternator	synchronous	synchronous	synchronous
Protection class	IP23	IP54	IP54
Cooling system	Luft	Luft	Wasser
Performance class	G1	G2	G2
$\eta$ Gen (@cos $\phi$ 0,8)	0,8	0,8	0,8
cos $\phi$	0,8	0,8	0,8
PRP (kW)	4,8	4,8	4,8
LTP (kW)	5,6	5,6	5,6
PRP (kVA)	6	6	6
LTP (kVA)	7	7	7
fr (Hz)	50	50	50
Version 3~			
Controller	Compound	AVR	AVR
Ur (V)	400/230	400/230	400/230
Ir (A)	8,7	8,7	8,7
Version 1~			
Controller	Condenser	AVR	AVR
Ur (V)	230	230	230
Ir (A)	26,1	26,1	26,1
L x B x H (mm)	810 x 500 x 655	810 x 500 x 655	810 x 500 x 655
m (kg)	200	200	200

# ESE 13 Silent

Energy for highest requirements



Type	ESE 13 Silent classic	ESE 13 Silent DUPLEX	ESE 13 Silent DUPLEX water-cooled
Type Nr.	8130200	8130201	8130202
Engine	Kubota D1703	Kubota D1703	Kubota D1703
Design	3-cylinder Diesel	3-cylinder Diesel	3-cylinder Diesel
Cooling system	Water	Water	Water
Displacement (cm <sup>3</sup> )	1647	1647	1647
P continuous (kW)	12,8	12,8	12,8
P stand-by (kW)	15	15	15
RPM (min-1)	1500	1500	1500
Speed governor	electronic	electronic	electronic
Alternator	synchronous	synchronous	synchronous
Protection class	IP23	IP54	IP54
Cooling system	Air	Air	Water
Performance class	G1	G3	G3
$\eta$ Gen (@cos $\phi$ 0,8)	0,82	0,82	0,82
cos $\phi$	0,8	0,8	0,8
PRP (kW)	10,4	10,4	10,4
LTP (kW)	12	12	12
PRP (kVA)	13	13	13
LTP (kVA)	15	15	15
fr (Hz)	50	50	50
Version 3~			
Controller	Compound	AVR	AVR
Ur (V)	400/230	400/230	400/230
Ir (A)	18,8	18,8	18,8
Version 1~			
Controller	Kondensator	AVR	AVR
Ur (V)	230	230	230
Ir (A)	56,5	56,5	56,5
L x B x H (mm)	1238 x 650 x 686	1238 x 650 x 686	1238 x 650 x 686
m (kg)	450	450	450

# ESE 19 Silent

The power-pack for strong loads



Type	ESE 19 Silent classic	ESE 19 Silent DUPLEX	ESE 19 Silent DUPLEX water-cooled
Type Nr.	8190200	8190201	8190202
Engine	Kubota V2403	Kubota V2403	Kubota V2403
Design	4-cylinder Diesel	4-cylinder Diesel	4-cylinder Diesel
Cooling system	Water	Water	Water
Displacement (cm <sup>3</sup> )	2434	2434	2434
P continuous (kW)	18,8	18,8	18,8
P stand-by (kW)	22	22	22
RPM (min-1)	1500	1500	1500
Speed governor	electronic	electronic	electronic
Alternator	synchronous	synchronous	synchronous
Protection class	IP23	IP54	IP54
Cooling system	Air	Air	Water
Performance class	G2	G3	G3
$\eta$ Gen (@cos $\phi$ 0,8)	0,8	0,8	0,8
cos $\phi$	30,8	30,8	30,8
PRP (kW)	15,2	15,2	15,2
LTP (kW)	17,6	17,6	17,6
PRP (kVA)	19	19	19
LTP (kVA)	22	22	22
fr (Hz)	50	50	50
Version 3~			
Controller	AVR	AVR	AVR
Ur (V)	400/230	400/230	400/230
Ir (A)	27,4	27,4	27,4
Version 1~			
Controller	AVR	AVR	AVR
Ur (V)	230	230	230
Ir (A)	82,6	82,6	82,6
L x B x H (mm)	1326 x 650 x 726	1326 x 650 x 726	1326 x 650 x 726
m (kg)	550	550	550

# everything OnBoard...

## Scope of supply & accessories

**Scope of supply:** Power unit mounted in the sound-insulated housing with a double break-free bearing, an installed control unit E-MCS 5.0 (by request also for external installation in the vehicle), air filter, fuel pump, pre-filter with water separator

**Optionally obtainable:** Exhaust system, side cooler (air and water cooled), roof cooler (air and water cooled), exhaust heat exchanger, E-RMA remote maintenance, starter battery, pull-out slide for installation in an automobile

## get connected...

### Remote monitoring - worldwide



Stay in contact – using the ENDRESS Remote Monitoring Application you will never lose contact with your device. You have access to the status of your power supply over a smart phone, tablet or a PC.

Maintenance and service intervals can be monitored and planned at any time.



**ENDRESS**   
Power Generators



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