# INDUSTRIAL POWER



# **TOTAL SYSTEM INTEGRATION.**EVERYTHING WORKS TOGETHER.

Reliability of power systems is critical. Your business depends on it. At Kohler, we build industrial power systems that are proven to work because total system integration is engineered in from the start.

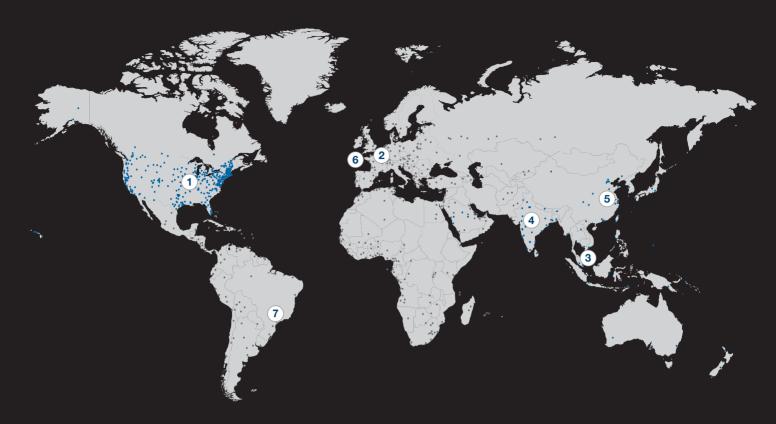
For more than 90 years, Kohler has earned a global reputation as a pure power expert — in large part to our strict quality standards. Our power systems are equipped with Kohler innovation, including generators, transfer switches, switchgear and controllers. Enduring the industry's toughest testing process, including transient power testing, cooling sound and more, every part is built to work with the entire system and perform in the most demanding environments before they are shipped out.

Our power systems are built for nearly every application, powering everything from gas stations to hotels and hospitals, as well as military operations and airports. So you can be rest assured that our products will work when you need them most.

# **DEPENDABLE POWER AND PERFORMANCE** TRIED, TESTED AND PROVEN TO WORK.

Critical power applications are part of every industry; protecting them starts with reliable KOHLER® generators, available in diesel, natural gas and LP gas configurations. Our diesel models deliver dependable power to a wide range of output requirements. From small-load residential and business to heavy industry, every KOHLER generator is engineered to provide maximum power, performance, flexibility and fuel efficiency.

Today, Kohler provides integrated solutions to streamline the specifying process. Our industrial generators are diesel-fueled models — ranging from 5.5 kVA to 3,300 kVA @ 50 Hz (7 kW to 3,200 kW @ 60 Hz) complete with electronic controls and automatic transfer switches. To help cater to unique installation environments, we also offer a range of accessories, including controls, silencers, enclosures, fuel tanks and block heaters.



#### **KOHLER POWER SYSTEMS**

- 1 Kohler, Wisconsin
  - Corporate Headquarters and Manufacturing Facility
- 2 France
- Regional Headquarters for EMEA
- 3 Singapore
  - Manufacturing Facility and Regional Headquarters for Southeast Asia (including Taiwan, Hong Kong & Bangladesh), North Asia & Australasia
- 4 India
  - Manufacturing Facility and Regional Headquarters for South Asia
- 5 China
  - Manufacturing Facility and Headquarters for China
- Regional Sales Offices, Dealers and Distributors

#### **SDMO** (Kohler-Owned)

- 6 France
  - Headquarters and Three Manufacturing Facilities
- 7 Brazil
  - Manufacturing Facility
- Regional Sales Offices, Dealers and Distributors

# KOHLER SERVICE AND SUPPORT THE HELP YOU NEED. ANY TIME, ANYWHERE.

Anybody can claim to offer an unrivaled level of support, but it is another thing to deliver on that promise. Today, Kohler distribution network spans across multiple sales offices in countries throughout the Asia Pacific region.

Unlike other generator manufacturers, Kohler certified distributors and dealers specialize in power. This means our service network can be called on for anything related to your generator and its components.

With Kohler, you enjoy world-class service and support from a global service network.

# **727-3300** kVA **636-3200** kW

## **KX SERIES GENERATORS**

OPTIMIZING POWER, SURPASSING STANDARDS.

# PACKED WITH POWER, ENGINEERED FOR TOTAL PERFORMANCE

With the fast growing demand for power in the world today, there is always a need for a secure power system capable of providing maximum power output.

The KX-series generators offer reliable power with a higher load factor as well as competitive fuel consumption rates. These generators are capable of providing optimal power for applications with high power requirements.

#### STANDARD FEATURES

#### **TESTED AND APPROVED**

KOHLER generators meet tough industry testing and quality standards (UL, CSA, IBC, NFPA).

#### **RAPID RESPONSE**

Our generator sets enable a faster response in powering up to deliver quality power during voltage and frequency changes.

#### **EASY INSTALLATION**

Our quickest install ever – large stub-up areas; easy access to fuel, load and exhaust locations.

^ 85% for standby rating; 75% for prime rating (70% for ISO standard).

- 1 HIGHER AVERAGE LOAD FACTOR 85% for standby rating and 75% for prime rating
- 2 ADEC ELECTRONIC ENGINE CONTROL SYSTEM HALF ENGINE MODE

Offers either emission or fuel optimized performance

# (3) UNIT MOUNTED MICRO-PROCESSOR CORE CONTROLLER

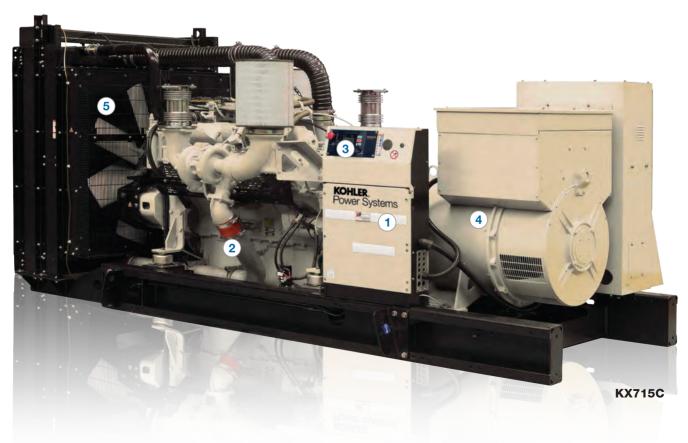
Provides advanced diagnostics, regulation and safety shutdown

4 AREP ALTERNATOR

Better motor starting capability and short circuit capability

5 UNIT MOUNTED OR REMOTE RADIATOR

Different radiator configurations depending on installation requirements



# STANDARD FEATURES AND ACCESSORIES

E Compliance of the Control Unit	
Four-stroke water-cooled diesel engine	Standard
Electronic control	Standard
Air filter	Standard
Air filter with interchangeable cartridge	Option
220/240 V preheating resistance (no control)	Option
Alternator	
IP 23 single bearing alternator, T° class =H, insulation class H/H	Standard
Anti-condensation resistor	Option
Reinforced insulation and finish	Option
Synchronising CT coupling + 3-function regulator	Option
Oversized alternator	Option
Generator Set	
CE compliance of the control unit	Standard
Mechanically welded base frame with antivibration dampers	Standard
.evels	
Automatic oil make up with tank	Option
Oil drainage pump	Standard
Cooling System	
Protective grille for fan and rotating parts	Standard

xhaust	
Stainless steel compensators	Standard
9 dB(A) silencer	Option
29 dB(A) silencer	Option
40 dB(A) silencer	Option
Starting System	
24 V charging alternator and starter motor	Option
Batteries with cables and battery support bracket	Option
No battery and battery support bracket	Option
Battery isolating switch	Option
uel System	
Generator set without fuel tank	Standard
Separate fuel tank on 500 L container	Option
Separate fuel tank on 1000 L container	Option
Retention container level alarm	Option
1m³/h pump auto kit 1	Option
1 m³/h pump auto kit 2	Option
Diesel separator pre-filter	Standard

#### **OPTION DETAILS**

#### **Silencer on Open Version**

For "open" version generator sets, a choice of 3 noise reduction levels is available (9dB(A), 29dB(A), 40dB(A)), to meet the constraints of various installations.



#### **Diesel Separator Pre-Filter**



This is a pre-filter enabling water contained in the diesel to be removed, thereby improving the engine's protection.

#### Filter with Interchangeable Cartridge

Dry air filters with removable and interchangeable cartridges cleaned with blown air, if required. This option is required when the



generator set is used in dusty environments.

#### **Oversized Alternator**

For use under heavy electrical or climate constraints, this option allows greater operating flexibility for better performance.



# **TECHNICAL SPECIFICATIONS**





EMISSIONS OPTIMIZATION											
50 Hz Specifications 400-230 V General Specifications											
kVA Generator Set Cos 0.8		Cons		Eng	ine	Alternator	Compact Ver	sion <sup>(5)</sup>			
Model <sup>(1)</sup>	PRP	ESP (4)	3/4 L/h	Engine Type	Cyl	Bore (mm)	Stroke (mm)	Cyl (L)	Туре	Dimensions L x W x H, m	Weight <sup>(6)</sup> (kg)
KX800C	727	800	-	12V2000G65RE	12V	130	150	23.9	LSA 49.1 M6	3.97x1.85x2.15	5262
KX880C	800	880	131	12V2000G65E	12V	130	150	23.9	LSA 49.1 L9A	3.97x1.85x2.15	5474
KX1000C	909	1000	154	16V2000G25E	16V	130	150	31.9	LSA 49.1 L10	4.32x1.85x2.15	6118
KX1100C	1000	1100	169	16V2000G65E	16V	130	150	31.9	LSA 49.1 L11	4.32x1.85x2.15	6588
KX1250C	1136	1250	192	18V2000G65E	18V	130	150	35.8	LSA 50.2 M6	4.45x2.13x2.26	7383
KX1540C	1400	1540	226	12V4000G23R1E	12V	170	210	57.2	LSA 50.2 L8	4.01x1.89x2.16	10640
KX1650C	1500	1650	251	12V4000G23R2E	12V	170	210	57.2	LSA 50.2 VL10	4.01x1.89x2.16	10920
KX1850C	1664	1830	266	12V4000G23E	12V	170	210	57.2	LSA 51.2 S55	4.05x1.89x2.16	11405
KX2000C	1818	2000	298	12V4000G63E	12V	170	210	57.2	LSA 51.2 S55	4.05x1.89x2.16	11405
KX2200C	2000	2200	336	16V4000G23E	16V	170	210	76.3	LSA 51.2 M60	4.62x1.89x2.44	13473
KX2500C	2273	2500	369	16V4000G63E	16V	170	210	76.3	LSA 51.2 VL90	4.82x1.89x2.44	14452
KX2800C	2545	2800	409	20V4000G23E	20V	170	210	95.3	LSA 53.1 M80	5.29x1.87x2.28	16010
KX3100C	2818	3100	450	20V4000G63E	20V	170	210	95.3	LSA 53.1 M80	5.73x2.25x2.45	18365
KX3300C	3000	3300	492	20V4000G63LE	20V	170	210	95.3	LSA 54 M75	5.73x2.25x2.45	18685

	CONSUMPTION OPTIMIZATION											
50 Hz Specifications 400-230 V General Specificat									ions			
Generator Set	kVA Generator Set Cos 0.8		Cons 3/4		Eng	ine	Alternator	Compact Vers	sion <sup>(5)</sup>			
Model <sup>(1)</sup>	PRP	ESP (4)	L/h	Engine Type	Cyl	Bore (mm)	Stroke (mm)	Cyl (L)	Туре	Dimensions L x W x H, m	Weight <sup>(6)</sup> (kg)	
KX800	727	800	113	12V2000G65RF	12V	130	150	23.9	LSA 49.1 M6	3.97x1.85x2.15	5262	
KX880	800	880	123	12V2000G65F	12V	130	150	23.9	LSA 49.1 L9A	3.97x1.85x2.15	5474	
KX1000	909	1000	140	16V2000G25F	16V	130	150	31.9	LSA 49.1 L10	4.32x1.85x2.15	6118	
KX1100	1000	1100	152	16V2000G65F	16V	130	150	31.9	LSA 49.1 L11	4.32x1.85x2.15	6588	
KX1250	1136	1250	-	18V2000G65F	18V	130	150	35.8	LSA 50.2 M6	4.45x2.13x2.26	7383	
KX1540	1400	1540	210	12V4000G23R1F	12V	170	210	57.2	LSA 50.2 L8	4.01x1.89x2.16	10640	
KX1650	1500	1650	231	12V4000G23R2F	12V	170	210	57.2	LSA 50.2 VL10	4.01x1.89x2.16	10920	
KX1850	1664	1830	241	12V4000G23F	12V	170	210	57.2	LSA 51.2 S55	4.05x1.89x2.16	11405	
KX2000	1818	2000	266	12V4000G63F	12V	170	210	57.2	LSA 51.2 S55	4.05x1.88x2.16	11405	
KX2200	2000	2200	306	16V4000G23F	16V	170	210	76.3	LSA 51.2 M60	4.62x1.89x2.44	13473	
KX2500	2273	2500	331	16V4000G63F	16V	170	210	76.3	LSA 51.2 VL90	4.82x1.89x2.44	14452	
KX2800	2545	2800	374	20V4000G23F	20V	170	210	95.3	LSA 53.1 M80	5.29x1.87x2.28	16010	
KX3100	2818	3100	407	20V4000G63F	20V	170	210	95.3	LSA 53.1 M80	5.73x2.25x2.45	18365	
KX3300	3000	3300	434	20V4000G63LF	20V	170	210	95.3	LSA 54 M75	5.73x2.25x2.45	18685	

- (1) Also available in the following voltages: 415/240 V 380/220 V 240/120 V 220/110 V

- (3) PRP: main power available continuously under variable load for an unlimited number of hours annually, in accordance with ISO 8528-1

  (4) ESP: Emergency Standby Power available for supplying emergency power in variable load applications in accordance with ISO 8528-1, no overload available for this service.

  (5) The dimensions and weights apply to a generator set specified in the price list, without options

  (6) Dry weight without fuel

- \* ISO 8528: powers specified in compliance with the legislation in force
- \*\* TA LUFT certification is given for PRP

# **TECHNICAL SPECIFICATIONS**





EMISSIONS OPTIMIZATION												
60 F	Iz Specific 480-277			General Specifications								
Generator Set		W 3528*	Cons		Eng	ine	Alternator	Compact Vers	sion <sup>(5)</sup>			
Model <sup>(2)</sup>	PRP	ESP (4)	3/4 L/h	Engine Type	Cyl	Bore (mm)	Stroke (mm)	Cyl (L)	Туре	Dimensions L x W x H, m	Weight <sup>(6)</sup> (kg)	
KX700UC2	636	700	131	12V2000G45E	12V	130	150	23.9	LSA 49.1 M6	3.97x1.85x2.15	5278	
KX800UC2	727	800	148	12V2000G85E	12V	130	150	23.9	LSA 49.1 L9A	3.97x1.85x2.15	5494	
KX900UC2	818	900	168	16V2000G64E	16V	130	150	31.9	LSA 49.1 L10	4.32x1.97x2.25	6198	
KX1000UC2	909	1000	184	16V2000G85E	16V	130	150	31.9	LSA 49.1 L11	4.32x1.97x2.25	6323	
KX1200UC2	1091	1200	217	18V2000G85E	18V	130	150	35.8	LSA 50.2 M6	4.45x2.13x2.26	7383	
KX1600UC2	1400	1600	282	12V4000G43E	12V	170	210	57.2	LSA 51.2 S55	4.05x1.89x2.16	11405	
KX1750UC2	1591	1750	319	16V4000G83E	16V	170	210	57.2	LSA 51.2 S55	4.05x1.89x2.16	11405	
KX2000UC2	1818	2000	377	16V4000G43E	16V	170	210	76.3	LSA 51.2 M60	4.62×1.89×2.16	13280	
KX2300UC2	2091	2300	422	16V4000G83E	16V	170	210	76.3	LSA 51.2 VL90	4.82x1.89x2.16	14235	
KX2500UC2	-	2500	-	16V4000G83LE	16V	170	210	76.3	LSA 51.2 VL95	5.11x2.25x2.54	15643	
KX2750UC2	2500	2750	504	20V4000G83E	20V	170	210	95.3	LSA 53.1 M80	5.73x2.25x2.45	18365	
KX3200UC2	2800	3200	549	20V4000G83LE	20V	170	210	95.3	LSA 54 M75	5.73x2.25x2.45	18685	

CONSUMPTION OPTIMIZATION											
60 Hz Specifications 480-277 V General Specifications											
Generator Set	kW Generator Set ISO 8528*		Cons		Engine				Alternator	Compact Vers	sion <sup>(5)</sup>
Model <sup>(2)</sup>	3/4 L/h	Engine Type	Cyl	Bore (mm)	Stroke (mm)	Cyl (L)	Туре	Dimensions L x W x H, m	Weight <sup>(6)</sup> (kg)		
KX1600U	1400	1600	265	12V4000G43F	12V	170	210	57.2	LSA 51.2 S55	4.05x1.89x2.16	11405
KX1750U	1591	1750	301	12V4000G83F	12V	170	210	57.2	LSA 51.2 S55	4.05x1.88x2.16	11405
KX2000U	1818	2000	358	16V4000G43F	16V	170	210	76.3	LSA 51.2 M60	4.62x1.89x2.44	13473
KX2300U	2091	2300	398	16V4000G83F	16V	170	210	76.3	LSA 51.2 VL90	4.82x1.89x2.44	14452
KX2500U	-	2500	-	16V4000G83LF	16V	170	210	76.3	LSA 51.2 VL95	4.82x1.89x2.44	14524
KX2750U	2500	2750	468	20V4000G83F	20V	170	210	95.3	LSA 53.1 M80	5.73x2.25x2.45	18365
KX3200U	2800	3200	509	20V4000G83LF	20V	170	210	95.3	LSA 54 M75	5.73x2.25x2.45	18685

- (1) Also available in the following voltages: 415/240 V 380/220 V 240/120 V 220/110 V
- (2) Also available in the following voltages: 440/254 V
- (3) PRP: main power available continuously under variable load for an unlimited number of hours annually, in accordance with ISO 8528-1
- (4) ESP: Emergency Standby Power available for supplying emergency power in variable load applications in accordance with ISO 8528-1, no overload available for this service.
- (5) The dimensions and weights apply to a generator set specified in the price list, without options
- (6) Dry weight without fuel
- \* ISO 8528: powers specified in compliance with the legislation in force
- \*\* TA LUFT certification is given for PRP

## THE CONTENERGY CONCEPT

The CONTENERGY concept offers a range of soundproof containers featuring a multitude of options.

With the standard dimensions, CONTENERGY containers are easy to transport and, once on site, it is very simple to install. We would recommend that you install them outside the building on a concrete floor plate fitted with a tunnel for the cables and pipes.

Highly economical and thanks to its cooling system, integrated sound traps and silencers, the CONTENERGY concept is completely self-contained, with a fuel capacity which enables it to operate immediately, without connection to an additional tank.

Kohler understands the many factors that have an influence on your equipment's operation. That is why our containers are designed to withstand harsh climate conditions. Whether your equipment needs to operate in extreme cold or tropical environments, let us know your requirements - we are sure to have the solution you're looking for.

Trailers compliant with international standards are also available, allowing you to transform your generator set into a mobile unit.

#### **CONTENERGY ISO & CPU**

The dimensions of CONTENERGY ISO & CPU containers comply with CSC certification. They have been specially designed to withstand significant loads and pressures during transport without incurring damage, and can be shipped without any special constraints. They are available in two sizes: 20 and 40 feet "High Cube".

#### **CONTENERGY CIR**

CIR type containers are specially designed with mobile and rental applications in mind. This highly compact model has a very low sound level and features an optional high volume tank, giving it up to 10 hours of autonomy. This model is available as a 20 feet "High Cube".

Our containers comply with all current standards and regulations governing these products, including:

- ISO 668
- NF90-005
- NF ISO 1496-1 (ISO 8323)











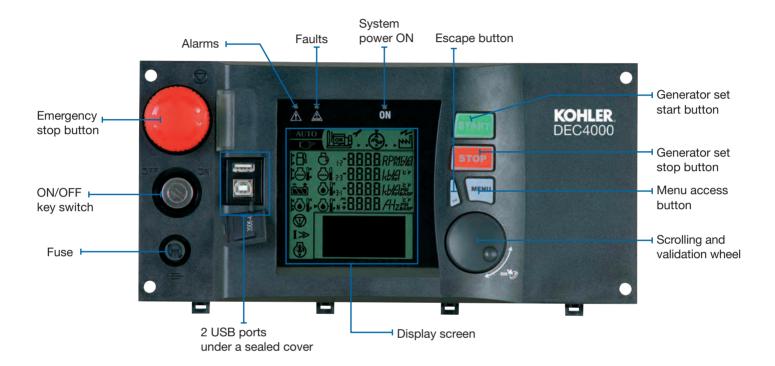
GENERATOR SET MODEL		SIL	ENT	SUPER SILENT		
	ENGINE	84 - 98 dB(A)@1 m	85 - 90 dB(A)@1 m	70 - 80 dB(A)@7 m	79 - 82 dB(A)@7 m	
KX800C to KX880C	12V2000	ISO 20 Si	X	CIR 20 SSi	X	
KX900UC2 to KX1100C	16V2000	ISO 20 Si	X	CIR 20 SSi	X	
KX1200UC2 to KX1250C	18V2000	ISO 20 Si	X	CIR 20 SSi	X	
KX1540C to KX2000C	12V4000	ISO 40 Si	CPU 40 Si	X	CPU 40 Si	
KX2000UC2 to KX2500C	16V4000	ISO 40 Si	CPU 40 Si	×	CPU 40 Si	

# **GENERATOR SET CONTROLS**

**DEC4000** 

The KOHLER® DEC4000 Control unit is straightforward and user-friendly, with the emphasis on communication USB connections, PC connections, control software and remote operation.

It offers simplicity with a reduced number of buttons to operate your generator set.



#### **ADDITIONAL FEATURES**

- Integrated maintenance monitoring programs (on-screen display of future maintenance operations)
- Built-in troubleshooting tool guides the user in the event of any alarms or faults
- Ability to send e-mail, SMS or fax in the event of any alarms or faults as an option
- Optional tropical insulation of the circuit boards to provide protection in extremely humid conditions
- Compliance with various requirements or regulations (CE, UL, etc.)
- · Screen with contrast adapted to all types of lighting
- Five languages featured with other numerous optional languages
- Remote monitoring and field updates via USB connection

## **GENERATOR SET CONTROLS**

**APM802** 

The APM802\* command/control system is specifically designed for operating and monitoring power plants for markets including hospitals, data centres, banks, oil and gas, IPP, rental and mining.

#### **DEDICATED TO POWER PLANT MANAGEMENT**

- Guarantees availability and reliability of the power plant
- Standard package with or without options, or "tailored" package
- Capable of performing dead-bus synchronizing to multiple generator sets

#### SPECIALLY RESEARCHED ERGONOMICS

- Intuitive and user-friendly design
- Guided product operations to help users get started

#### HIGH LEVEL OF EQUIPMENT AVAILABILITY

- Ring redundancy option: all functions remain fully operational in all circumstances
- Robust and specially designed product adapted to the generator set environment

#### MODULARITY AND LONG SERVICE LIFE GUARANTEED

- Minimum configuration (HMI<sup>^</sup>, BASE and REGULATION) is flexible and the equipment can be upgraded by adding extra modules
- Whole unit remains compatible, even when one of the components needs upgrading
- Client customization using LADDER language in compliance with international standard IEC61131-3

#### THE TECHNOLOGIES IMPLEMENTED IS PERFECT FOR ENSURING:

- Users can get started quickly
- Easy remote monitoring, including mobile monitoring
- Excellent interpersonal communication for improved efficiency in operations and maintenance

#### **OPERATING SCREEN**



<sup>\*</sup> Advanced Power Management

Illustration may vary from actual product.

<sup>^</sup> Human Machine Interface



#### **ENHANCED COMMUNICATIONS**

The APM802 is the latest solution to power plant projects that was conceived through the close monitoring of different project requirements that are needed. It is an innovation designed for installations that require a high level of equipment availability, access to information and transmission of data.

The following communications integrated as standard in the APM802 are based on sophisticated and modern technologies:

#### **Ethernet Ports and CAN Ports for System Communications**

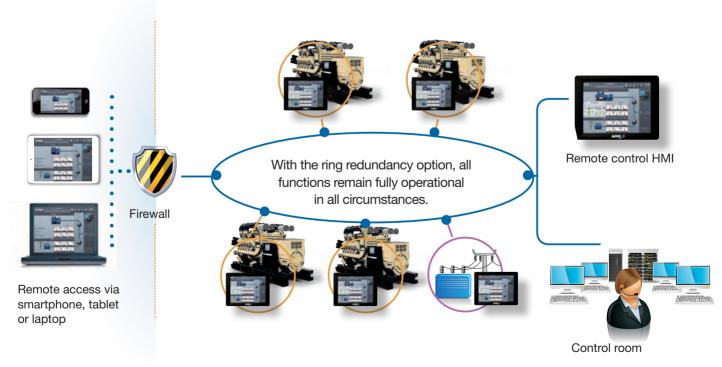
- Ethernet technology is ideal for secure, real-time transmission of critical data. It is particularly used for communication between APM802 as well as between the BASE module and HMI.
- Robust industrial CAN technology is used in particular for communication between modules of the APM802.

#### Separate Ethernet Ports and Insulated RS485 Port for External Communications

- Modbus TCP on Ethernet, configurable to the customer's installation
- Modbus RTU on insulated RS485, configurable to the customer's installation
- A range of protocols are available as an option: 2G/GSM/GPRS/3G, SNMP, Profibus, LonWorks, IEC 60870-5-104, IEC 61850, etc.
- Built-in WEB server on Ethernet, configurable to the customer's installation
- Remote access to information for viewing, understanding and actions required

#### ETHERNET COMMUNICATION: INNOVATIVE AND PATENTED

The APM802 Ethernet communication guarantees a high level of equipment availability and facilitates the remote control of HMI for an enhanced user experience. Additionally, various connections can be made via the Ethernet using fibre optics or combined with copper wire. System communications are separated from external communications to allow full control of risk management.



The ring is created by several Ethernet segments and groups together regulation and PLC communications.

#### **Southeast Asia Headquarters**

Kohler Power Systems - Singapore 7 Jurong Pier Road Singapore 619159 Tel: +65 6264 6422

Fax: +65 6264 6455

Sales inquiries: sales.sg@kohler.com

#### **Regional Sales Offices**

### S.E. Asia, Taiwan, Hong Kong & Bangladesh

Kohler Power Systems - Singapore 7 Jurong Pier Road

Singapore 619159 Tel: +65 6264 6422 Fax: +65 6264 6455 Email: sales.sg@kohler.com

#### **Australasia**

Kohler Power Systems - Australia C/O P O Box 324, Highgate South Australia 5063 Tel: +61 439 338 166

Fax: +61 8 8338 6424

Email: bob.morgan@kohler.com

#### **North Asia**

Kohler Power Systems - Japan SBS Hills-II, No. 53 4-10-3, Yoga, Setagaya-Ku Tokyo 158-0097 Japan

Tel: +81 3 6807 1730 Fax: +81 3 3708 4377 Email: kawasaki@kohler.co.jp

Kohler Power Systems - Korea Room 1809 LG Twintel 2 157-3 Samsung–Dong Gangnam-gu Seoul 135-090 South Korea Tel: +82 2 563 9266

Fax: +82 2 563 9730

Email: chanusohn@kohler.com

SPEC YOUR JOB AT KOHLERPOWER.COM.SG

For more information on the complete range of Kohler products, please contact us at +65 6264 6422 or visit KohlerPower.com.sg/Industrial



