

# PRODUCT GUIDE



Electronic edition – Drive power applications





The interactive simulator provides a taste of the new Intelivision 8, with demo and preview options illustrating screen information and function.



# InteliVision 8

InteliVision 8 is a new generation colour display unit for InteliGen<sup>NT</sup>, InteliSys<sup>NT</sup>, InteliMains<sup>NT</sup> and InteliDrive controllers. It is designed as a simple, easy to use Plug and Play solution, which also features our unique TRENDS monitoring as a standard feature.

It is the first colour display in the Power Generation field. More info on page 54.



[www.comap.cz/intelivision8](http://www.comap.cz/intelivision8)



# SWITCHED ONTO INNOV

## InteliDrive® Mobile

The InteliDrive Mobile is a highly flexible sophisticated mobile electronic controller, which features outstanding control, monitoring and protection for diesel and gas engines as well as driven technology.

The new controller offers range of specific functions suitable for mobile applications as hydraulic system control, communication with sensors and operational devices control.

Most commonly, these tailored applications meet the specific control requirements of mobile hydraulics, engine driven compressors and pumps.



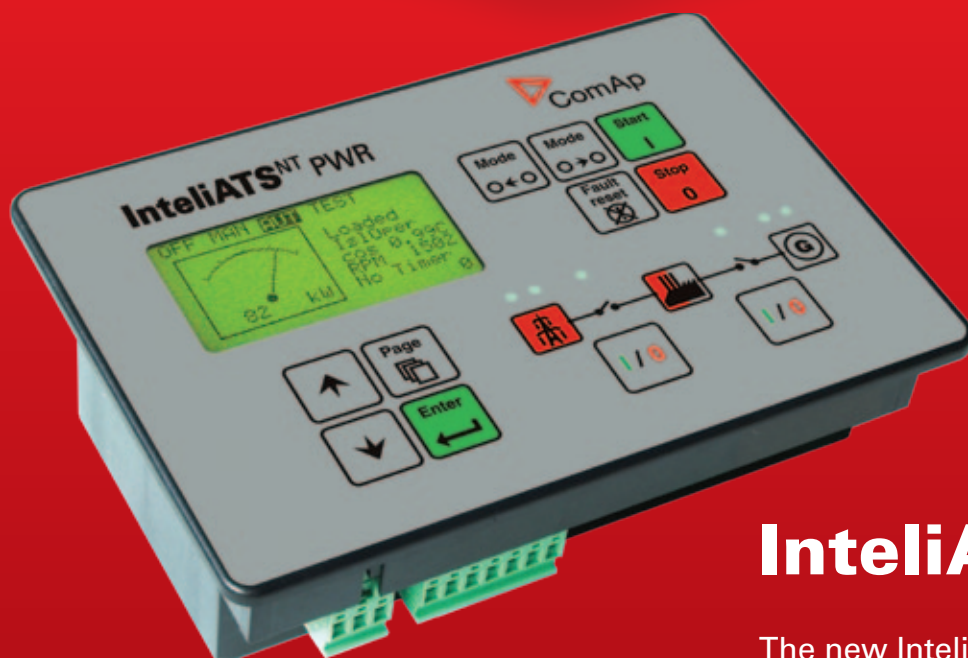
more on page 40

## InteliCompact<sup>NT</sup>

InteliCompact<sup>NT</sup> models are new integrated controllers for gen-sets operating in both standby and parallel modes. Functionality, optimized for ease of use, installation and configuration, includes built-in synchronizer and digital isochronous load sharer.

... more on page 14

# VATION



## IntelATS<sup>NT</sup>

The new IntelATS<sup>NT</sup> controllers are designed to monitor the incoming AC mains supply (1 or 3 phases) for under voltage, over voltage, under frequency, over frequency and voltage unbalance.

*... more on page 8*



## WELCOME TO OUR PRODUCT GUIDE

Following the positive feedback from our first Product Guide we have updated the second issue with more information on an ever-growing range of control products. In the meantime, our design and development teams have worked very hard to create exciting new control solutions to meet customers' application needs – all of which are detailed in the new guide.

We hope you find it just as useful and practical as before. Inside you will find technical information, product features and functions, alongside customer feedback on how the products have performed in the field. Hearing what you think is very important to us, so if you would like to share your experience of using our products please let us know by emailing your story to [info@comap.cz](mailto:info@comap.cz)

Overall, it offers a comprehensive guide to our entire range of products and accessories. I hope you find it both helpful and invaluable.

Regards  
Libor Mertl – Managing Director



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# Applications

## Power generation applications

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This section demonstrates the flexibility and capability of ComAp power generation control solutions by illustrating a wide range of applications including single gen-sets, multiple sets operating in parallel and complex CHP (cogeneration) applications. Each example shows how ComAp control products integrate seamlessly to deliver a complete and effective control and monitoring package for both typical and complex power applications.

## Drive power applications

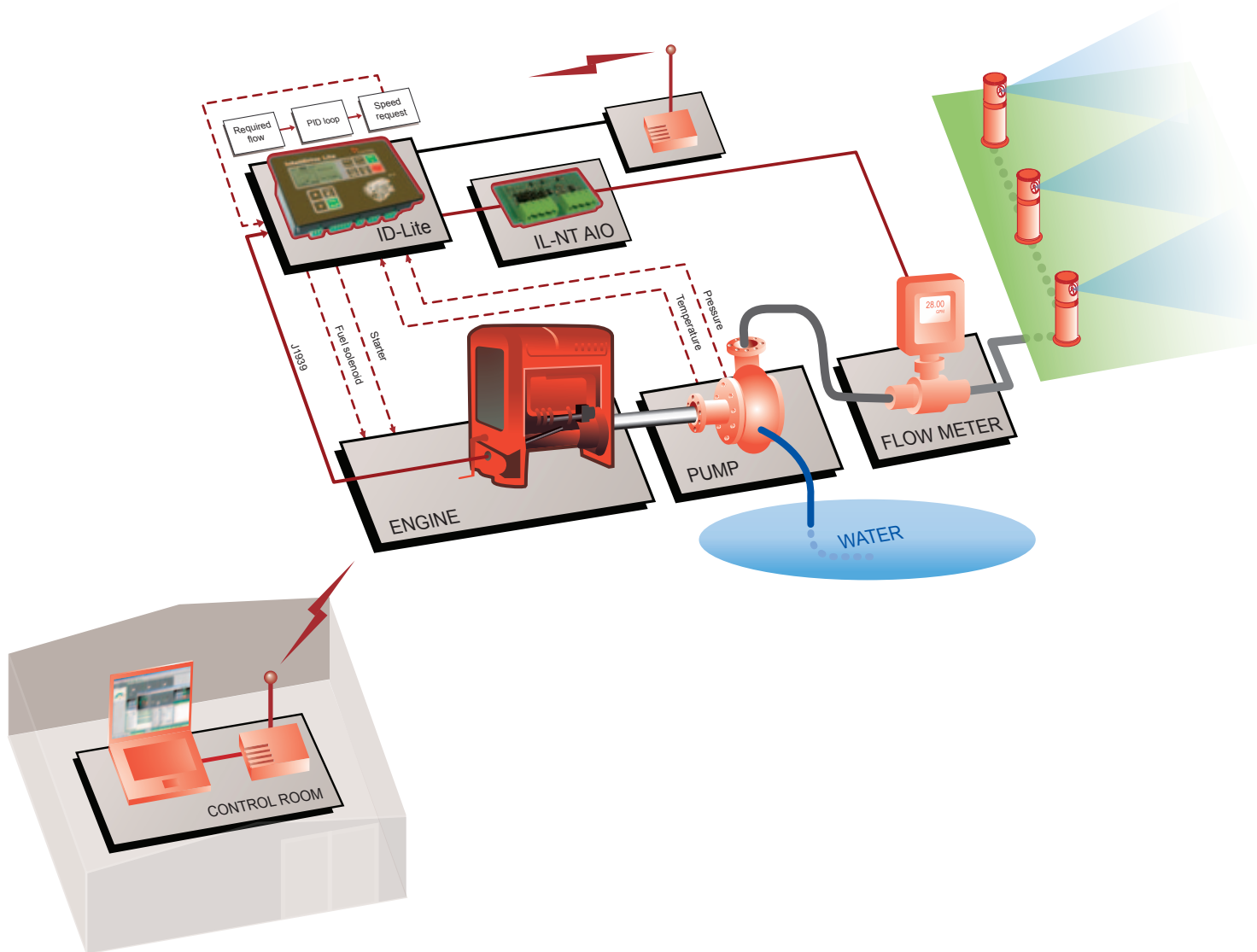
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ComAp drive power control products are suitable for a wide range of diesel engine powered plant and equipment. The following applications are just a small selection to demonstrate the versatility of ComAp drive power products and accessories for use in this demanding market.





## Irrigation pump system



### Description:

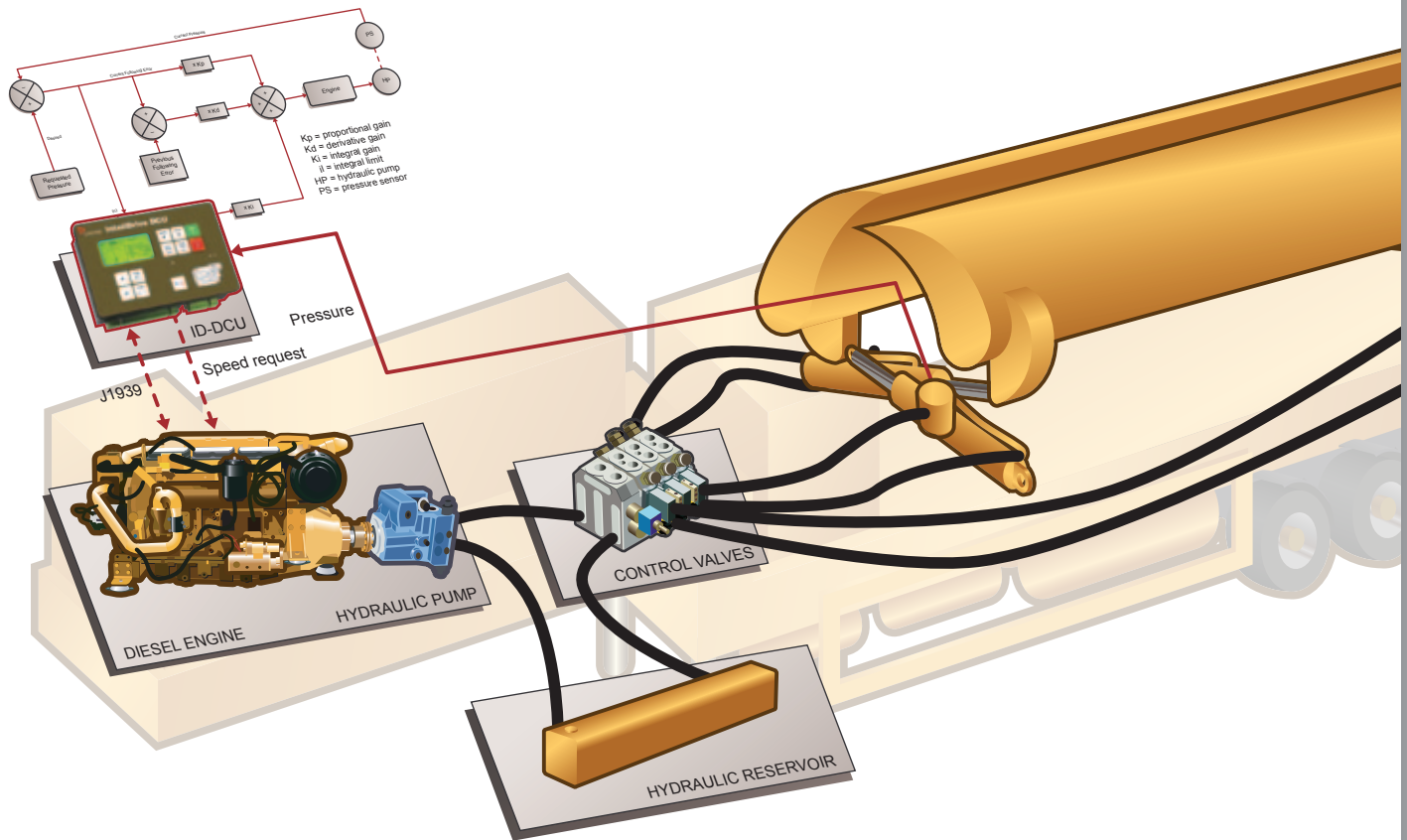
- Irrigation pump is driven by combustion engine.
- IntelliDrive Lite makes complete controls, monitoring and protection of the engine.
- Water flow from a pump is measured by flow-meter. IntelliDrive Lite controls variable speed engine, which enables to change water flow according momentary need.
- IntelliDrive Lite protects engine against overload via engine load limitation function based on Load information from ECU.
- The system status and required flow is monitored and adjustable via GSM modem from a central supervision point via integrated and enhanced PLC logics, as well as the engine-speed load is controlled via PID-loops.
- The advanced bi-directional CAN-Bus communication helps simplify the wiring to the engine.

### Scope of supply:

- 1x IntelliDrive Lite
- 1x IL-NT AIO
- 1x Radio or GSM modem (not delivered by ComAp)
- 1x Flow-meter (not delivered by ComAp)



## Hydraulic of shearing machine



### Description:

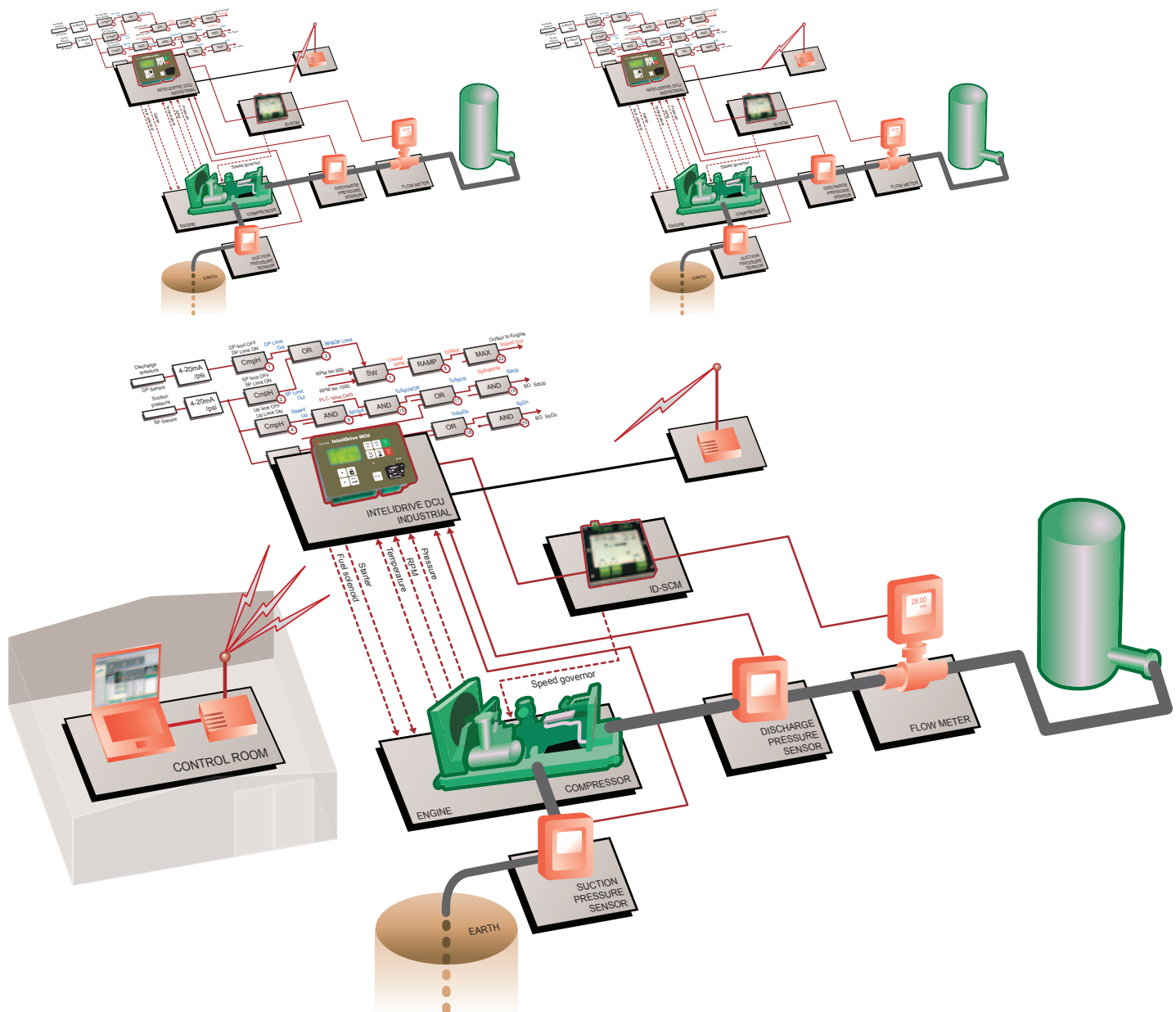
- Mobile hydraulic shear balers and fragmentizers, which are driven by diesel engines with electronic fuel injection and meet all of the latest emission standards.
- Subject machines are mainly used to compress scrap-metal and cut it into pieces, very useful for further processing.
- The IntelliDrive DCU Industrial oversees the complete, control, monitoring, fault-logging and protection of the machine operation.
- All information is visualized on the screen, including faults transmitted via CAN from the engine mounted ECU.
- The hydraulic sequences are controlled via integrated and enhanced PLC logics, as well as the engine-speed load is controlled via PID-loops.
- The advanced bi-directional CAN-Bus communication helps simplify the wiring to the engine.

### Scope of supply:

- 1x IntelliDrive DCU Industrial



## Gas compressor



### Description:

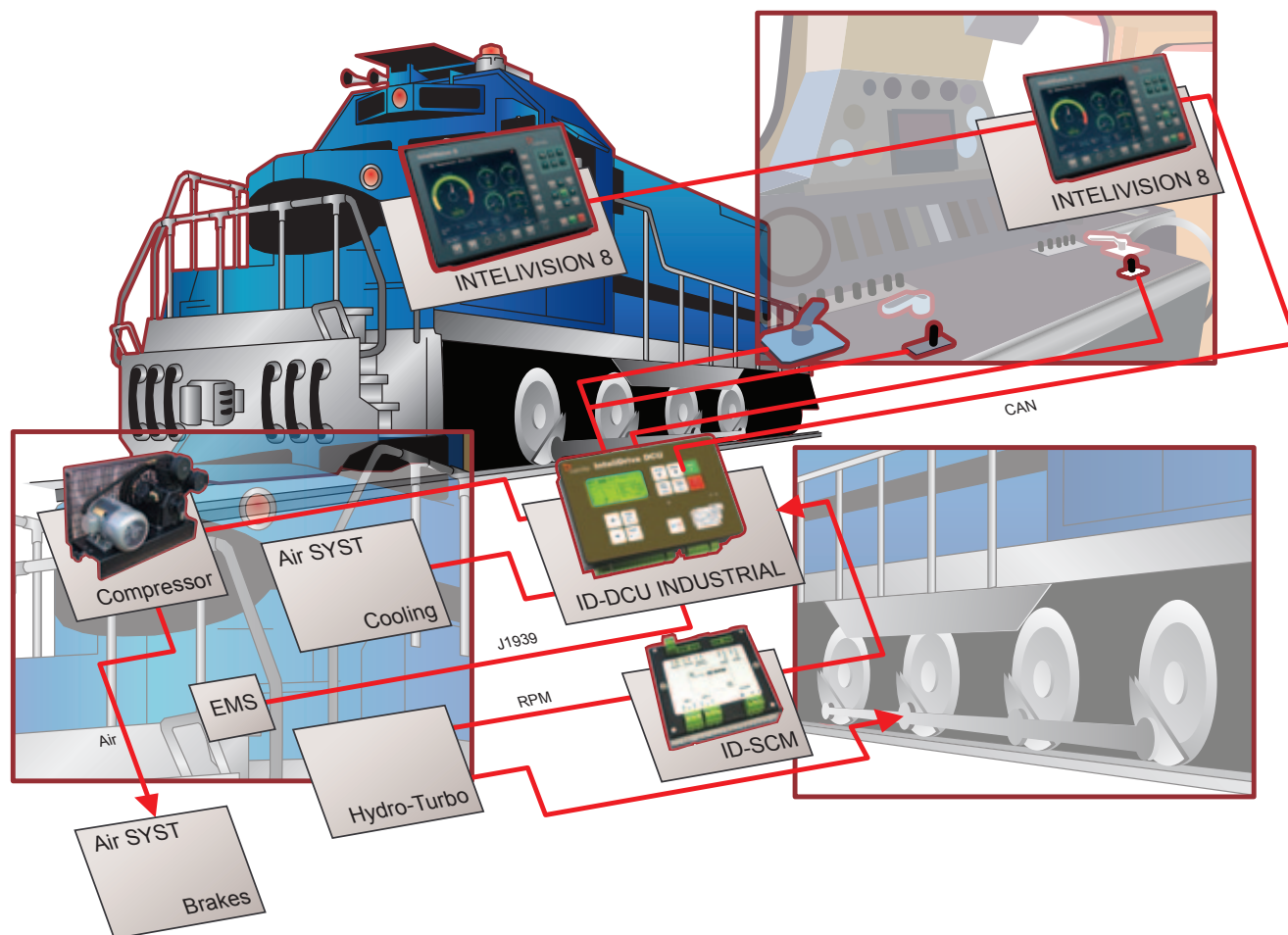
- Gas compressor is driven by a combustion engine.
- IntelliDrive makes complete control, monitoring and protection of the engine and compressor.
- Sophisticated control algorithm using build-in PLC modules accomplishes optimal running conditions for the compressor.
- Speed of the engine is determined according to the suction and discharge pressures of the compressor.
- Additional unload and by-pass valves are controlled by IntelliDrive in dependence on both suction and discharge pressures.

### Scope of supply:

- 1x IntelliDrive DCU Industrial
- 1x ID-SCM
- 1x Radio or GSM modem (not delivered by ComAp)
- 1x Flow-meter (not delivered by ComAp)



## Shunting locomotive



### Description:

- The shunting locomotive re-power application uses an IntelliDrive DCU Industrial for the complete control, monitoring and protection of the Volvo D16 engine which drive a Voith Hydro –Turbo gear-box for propulsion via a system of push-rods.
- Full communication between engine, IntelliDrive DCU Industrial and the two IntelliVision 8 displays is achieved with CAN bus – making the system wiring and integration very simple.
- All values, warnings and fault codes from the engine (EMS) are displayed on the two large IntelliVision 8 displays, located on both sides of the locomotive cabin.
- Smooth take-off and moving, with wheel-slip limitation, is controlled by Ramp function – made possible with the standard IntelliDrive DCU Industrial integrated, free configurable PLC logic.

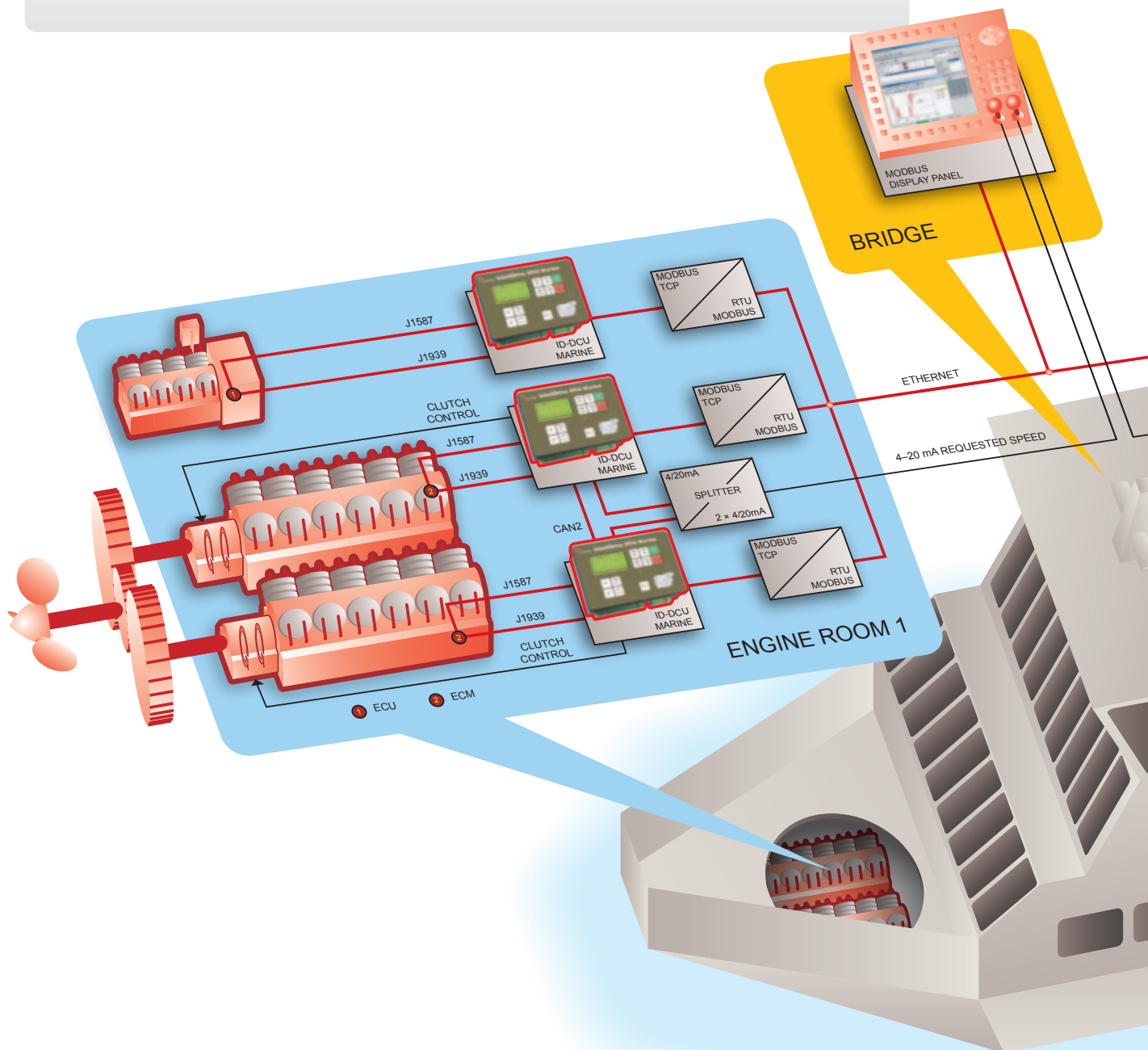
### Scope of supply:

- 1x IntelliDrive DCU Industrial
- 2x IntelliVision 8
- 1x ID-SCM

## Ship control system

**Description:**

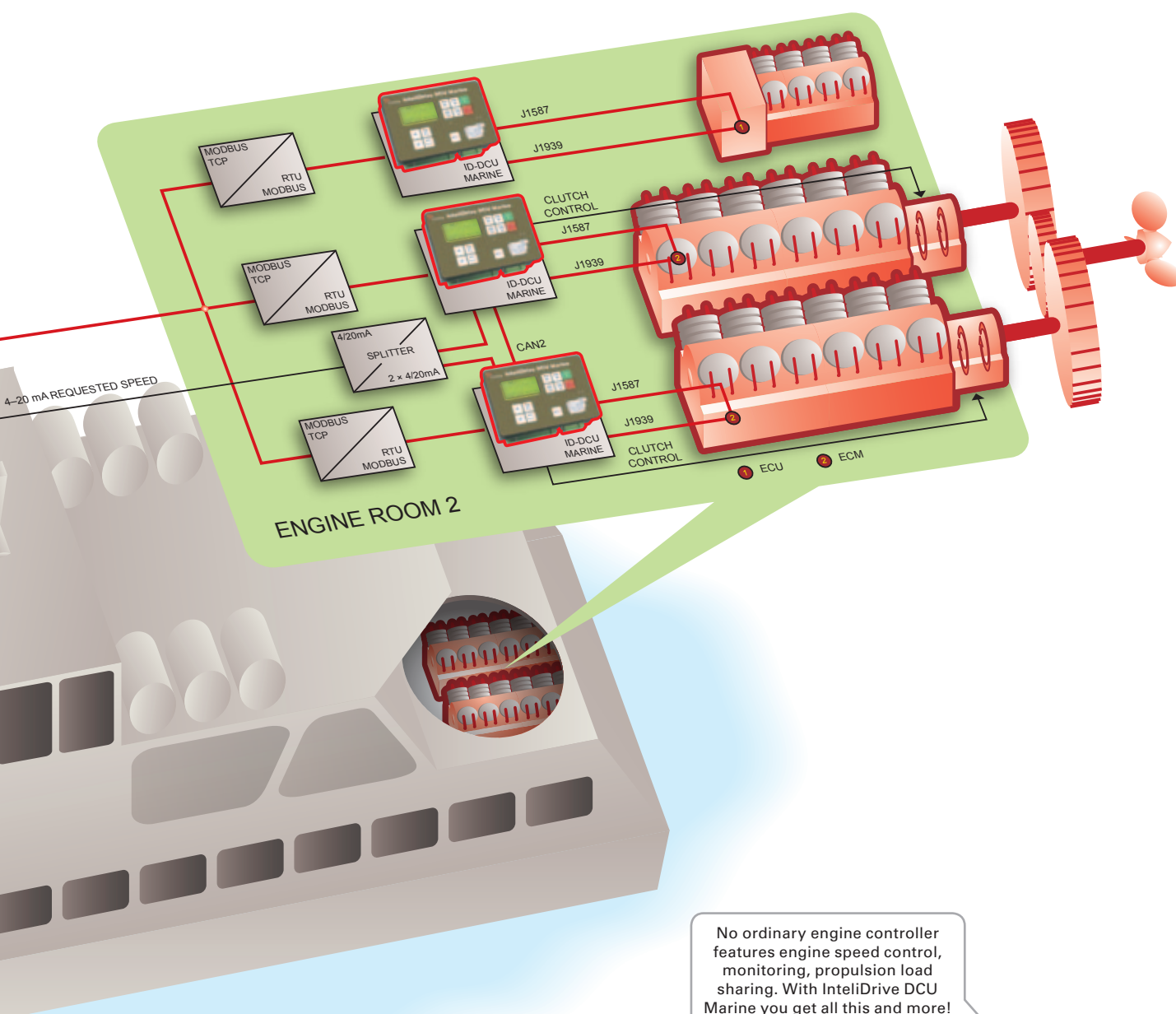
- Small ferries typically feature two propellers, one in bow and one in stern. Propellers can rotate by 360° to give requested maneuverability to the ferry.
- Each propeller is driven by two engines located in two separate engine rooms.
- In each engine room is also one auxiliary gen-set.
- Propulsion engines are controlled by IntelliDrive DCU Marine, in PROP configuration, via J1939 bus. Redundant J1587 bus is used in case of J1939 failure.
- Requested speed is defined by 4–20 mA signal from the bridge.
- IntelliDrive controllers make propulsion load-sharing to keep engines evenly loaded.
- Engines of auxiliary gen-sets are controlled by IntelliDrive DCU Marine in AUX configuration.
- IntelliDrive controllers communicate to a ship's control and visualization system via Modbus RTU/TCP converter and Ethernet bus.
- Optimal configurable structure of IntelliDrive's Modbus message together with high communication speed of Ethernet bus gives immediate information on engine speed and torque required on the bridge of a quickly maneuvering ship.





#### Scope of supply:

- 6x IntelliDrive DCU Marine
- 6x ID-RPU
- 4x ID-COM
- 6x Modbus RTU/TCP converter (not delivered by ComAp)

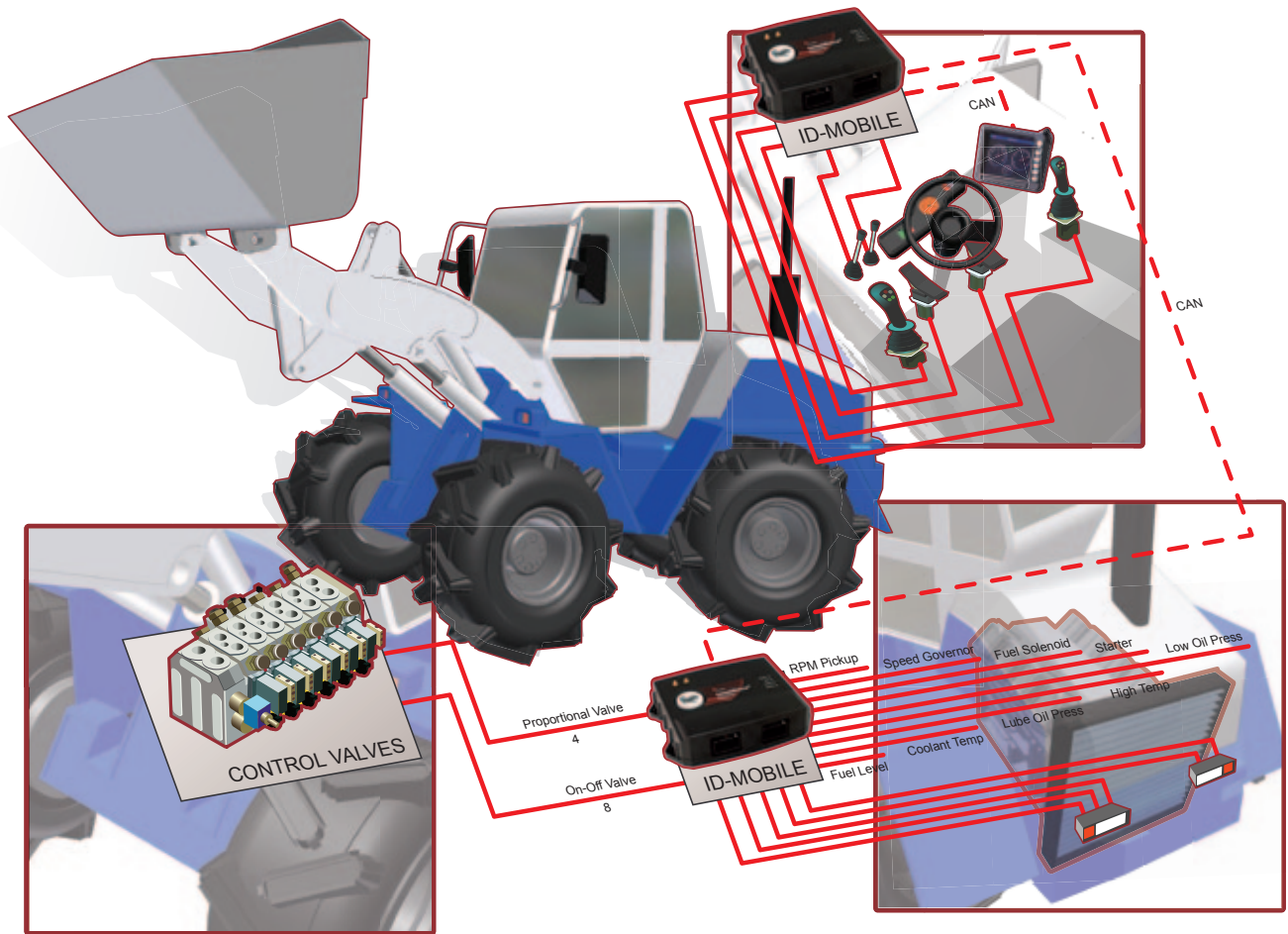


No ordinary engine controller features engine speed control, monitoring, propulsion load sharing. With IntelliDrive DCU Marine you get all this and more!





## Wheel loader



### Description:

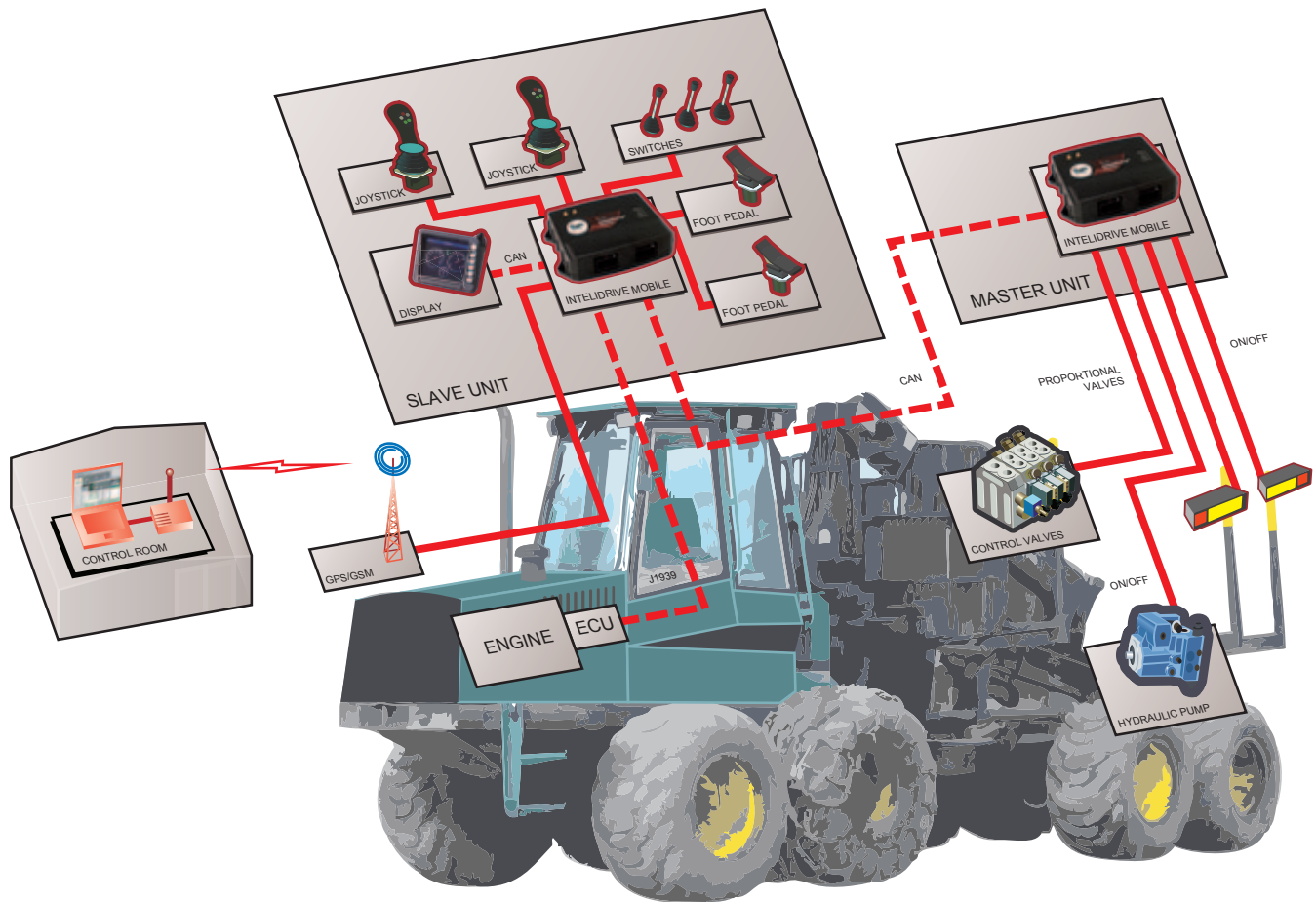
- Wheel loader application – where a standard (non-electronic) engine drives a hydraulic pump and produces high-pressure oil drives wheels through hydro-motors delivers power to all hydraulic cylinders and pistons.
- Two IntelliDrive Mobile (ID-Mobile) controllers are utilized in the application. The first one, located in the driver's cabin, receives commands from the driver via two joysticks and various switches giving him complete information on machine status via a large color screen and a few pilot-lights. The second IntelliDrive Mobile, located on the machine frame, controls and monitors the engine and various hydraulic control valves.
- Communication between the two IntelliDrive controllers and the on-board display is via CAN line. This makes the system wiring and integration very simple.
- All values, warnings and fault codes from the engine are displayed on the on-board display.
- Control of the bucket level is via proportional hydraulic valves, control of wheel speed with anti-slip protection is via PWM hydraulic valves and all other control loops are realized by standard integrated free configurable control blocks.

### Scope of supply:

- 2x IntelliDrive Mobile
- 1x VGA Mobile display



## Forwarder



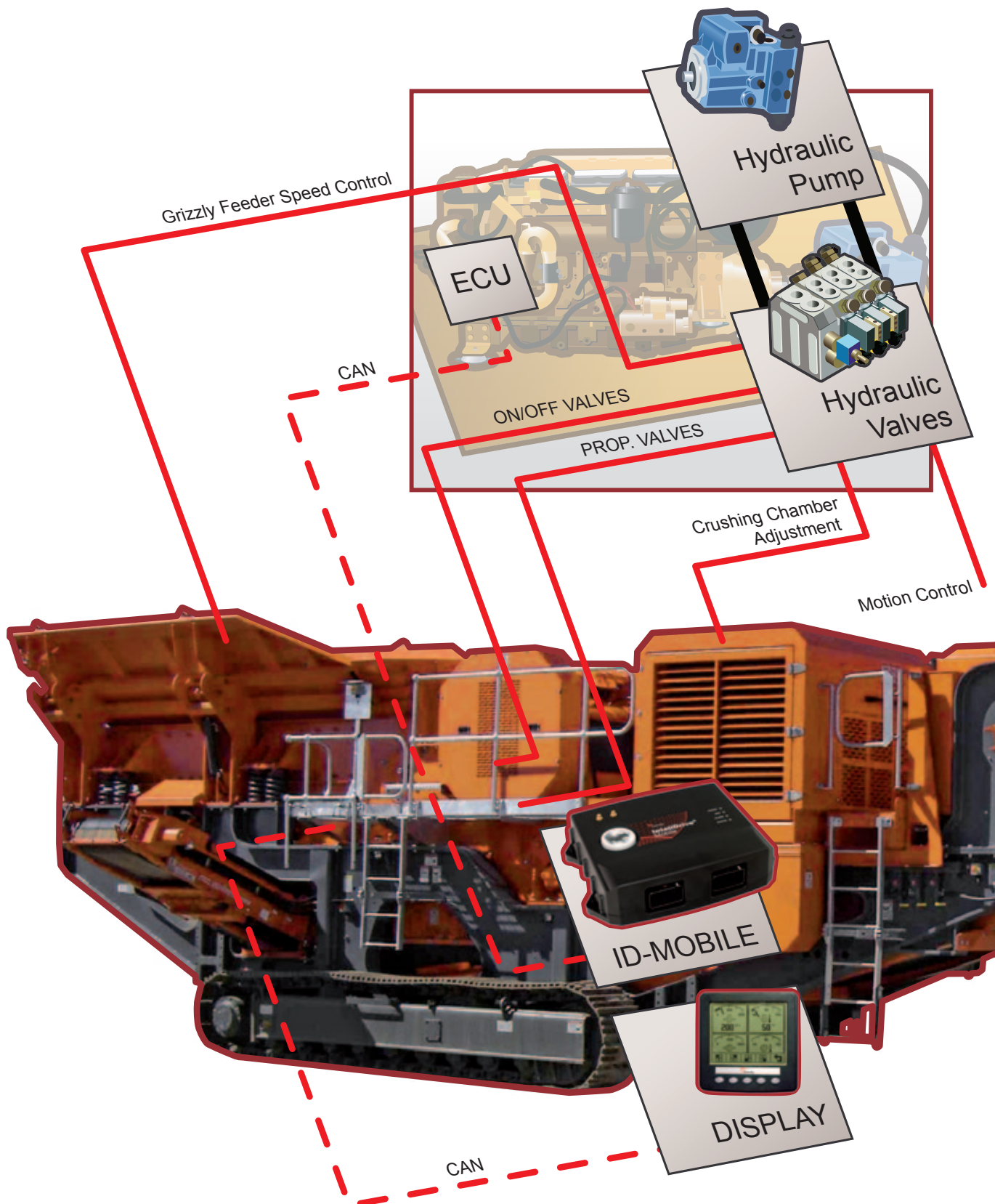
### Description:

- Forwarder application – where electronic engine drives hydraulic pump and produces high-pressure oil for driving manipulator.
- Two IntelliDrive Mobile (ID-Mobile) controllers are utilized in the application. The first one - Slave unit located in the driver's cabin receives commands from the driver via joysticks, foot pedals and various switches. Large color screen together with a few pilot lights gives complete information and machine status. The second IntelliDrive Mobile – Master unit located on the machine frame controls and monitors the engine and hydraulic control valves.
- Communication between the two IntelliDrive controllers and the on-board color screen is via CAN line. This makes the system wiring and integration very simple.
- All values, warnings and fault codes from the engine are displayed on the on-board color screen.
- GPS module allows geofencing function- protecting machine against the stealing or unauthorized use. SMS or e-mail warning is sent in such case.
- GSM Module allows monitoring machine activities or status of vehicle.

### Scope of supply:

- 1x IntelliDrive Mobile (Master unit)
- 1x IntelliDrive Mobile (Slave unit)
- 1x Display
- Customized Harness

# Crusher





#### Description:

- Crusher application - where an electronic engine drives a hydraulic pump. The IntelliDrive Mobile (ID-Mobile) controller oversees the complete control, monitoring and protection of the engine and all driven machinery. The continuous speed control of a grizzly feeder together with the adjustment of the crushing chamber prevents the crusher from blockages and reduces wear on critical components.
- Communication between engine, IntelliDrive Mobile and a display is via CAN bus line. This makes the system wiring and integration very simple.
- Visualization of the most important parameters of the machine as well as selection of the operational mode of the machine is done by a display located near the IntelliDrive Mobile controller.
- Control of machine operation is realized by standard integrated, free configurable PLC logic.

#### Scope of supply:

- 1x IntelliDrive Mobile
- 1x Monochrome or colour display



# Satisfied Customers Worldwide

## USA

### Boss Industries



*"ComAp's compressor and engine control panel solution optimizes natural gas production on Boss's booster units by providing accurate process control using digital pressure transducers. Our customers are very happy with its event history capabilities as well as its compressor and engine protective features. We also value the fact that the ComAp ID-DCU panel is fully compatible with future electronic emission certified engines and control capabilities. BOSS Industries has standardized on the ComAp panel for our gas well booster compressor units."*

**Ed Ketcham**  
VP Sales  
[www.bossair.com](http://www.bossair.com)



## Canada

### Simson-Maxwell



*"When I first saw IntelliVision, I immediately recognized its potential for our power generation systems. The large easy to read color display and customer-friendly interactivity is precisely what our customers have been looking for. We have already installed systems with IntelliVision and received very positive feedback from our customers on the units performance."*

**Santokh Sahota**  
Engineering Manager  
[www.simson-maxwell.com](http://www.simson-maxwell.com)



## Netherlands

### Sandfirden Technics



*"All our generator sets and propulsion engines are equipped with a ComAp engine controller, ID-DCU Marine. They are approved by all major Ship Classification Companies. The units fulfill our high quality standards, have many applications and are widely used. Remote monitoring is one of them, which Sandfirden Technics is using in some cases."*

**Harry Jasper**  
Service Manager  
[www.sandfirden.nl](http://www.sandfirden.nl)



## Slovakia

### ELTECO

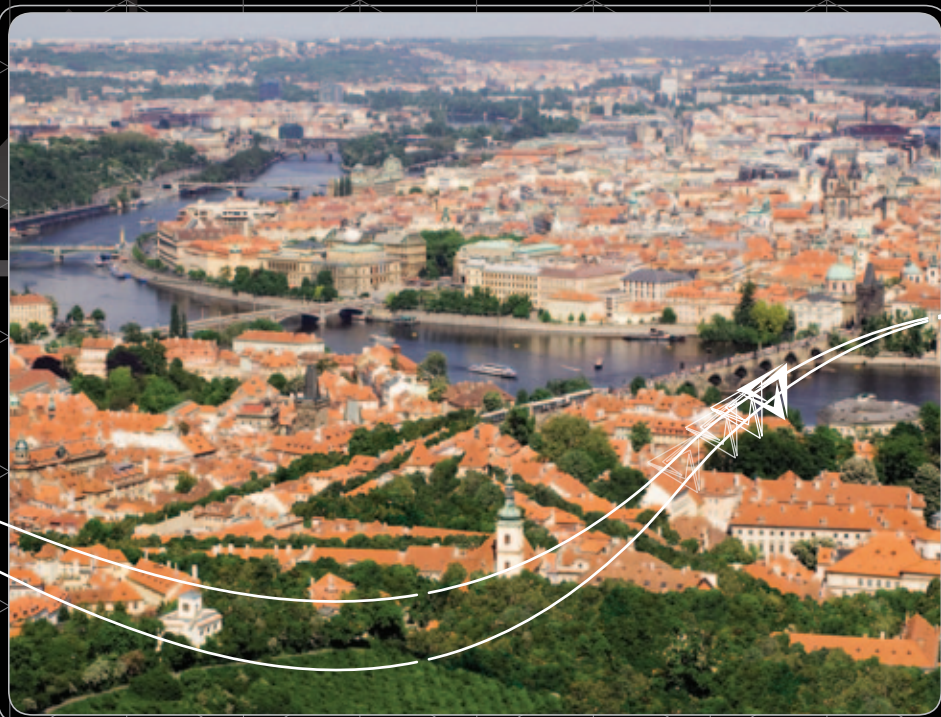


*"We admire ComAp products because of their innovative features. These include forward looking technological development of monitoring; the ability to solve non-standard customers' requirements and the huge spectrum of opportunities for running of power supplies."*

**Peter Šiška**  
Chief of Application and costing  
estimation department  
[www.elteco.sk](http://www.elteco.sk)



# About ComAp





# ComAp

**ComAp is a dynamic international company with a solid reputation for delivering innovative electronic solutions to the power generation, industrial engine and equipment markets. By providing customers with state-of-the-art products, ComAp has built a name for delivering excellent reliability and good value.**

## Excellent and reliable product solutions

ComAp specializes in creating electronic control and management solutions for use in the power generation industries and drive power markets. Our portfolio of products, software and accessories is designed to support emergency power, standby power generation and engine driven applications all over the world. We also work closely with our customers to develop unique customized and turn key solutions for ordinary and extraordinary applications delivering high standards of excellence on every project.



ComAp products represent some of the most reliable solutions on the market today. Every component and product undergoes the most rigorous standards during manufacture, with every stage being undertaken in accordance with international ISO 9001 certification. Our products are backed with the approvals from



major Marine Certification Societies. Accreditation at the highest-level breeds confidence, and every ComAp product is supplied with an appropriate warranty and after-sales support for complete peace of mind.

## People make the difference

ComAp's key strengths are flexibility, experience, knowledge and enthusiasm. This blend of values defines our personality and gives you the assurance of a truly honest and positive relationship. By supporting our people, investing in their development and encouraging creativity, our teams work hard to find new opportunities, technologies and solutions that enable us to successfully help our customers solve their problems effectively.

At ComAp, we believe passionately in the importance of continuously developing new technology along with forward thinking software and hardware to maintain the enviable position as worldwide leader in communication and control for power generation and drive power applications.





At the heart of this process is a strong desire to exceed our customers' expectations by finding outstanding solutions for them and drawing upon the company's most valuable asset – people. Over 80% of ComAp employees are graduates with specialized electronic and programming knowledge appropriate to the innovative development of market-orientated engine management systems. This unique know-how is matched by ComAp's significant

investment at every stage of the research and development process, resulting in the creation of leading edge modern development facilities. ComAp consistently set high standards, reflected by our achievement in the 'Best Employers Study in the Czech Republic' (conducted by Hewitt Associates), where we were awarded first place in 2008 following our consecutive third places in both 2006 and 2007.

## ComAp Systems

ComAp's expertise extends beyond innovative controllers to include a range of subsidiary businesses specializing in related services including bi-fuel conversions, power energy systems solutions and gas engine management.

These subsidiaries are located in key strategic regions around the world ensuring our customers benefit from local capability coupled with global reach. Most of them are named ComAp Systems and more information is available on each business at [www.comapsystems.com](http://www.comapsystems.com).



## Key Milestones

### 1991

Establishment of ComAp.

### 1993

Successful commissioning of four Gen-set Control Systems made by ComAp on Mediterranean islands.

### 1994

MX controller, the second generation of ComAp's gen-set control systems, was launched.

### 1996

PX, the revolutionary gen-set controller with configurable input and outputs, was developed.

### 1999

The strategic co-operation with HuegliTech Company significantly increased our distribution network.

### 2000

InteliGen, the first member of the Inteli family and flagship of our gen-set control systems, was released.

### 2001

ComAp Ltd. – 100% UK based ComAp subsidiary was established close to Bristol.

### 2002

InteliSys, our top end product dedicated to CHP and large engine control applications, was released. New mid-range product InteliLite was launched for AMF and MRS applications.

### 2004

InteliDrive controller for non gen-set, engine driven applications was released.

### 2006

ComAp LLC – ComAp subsidiary to promote products in the USA and Canada.

### 2007

InteliVision – the first color display unit in power generation field.

### 2008

InteliCompact – controller for simple paralleling gensets.

## Professional partnerships

ComAp products are directly available in more than 60 countries, spanning almost every continent in the world. Through our professional and highly dedicated global distributor network we can satisfy customers' needs, however challenging.

Each ComAp distributor is carefully selected for their professionalism, product expertise and recognized quality standards and accreditation, and as such can advise customers on any matter relating to ComAp products and their applications.

	Algeria	H-T-F www.h-t-f.fr
	Argentina	SERVINTEL INTERNATIONAL S.A. www.servintel.com
	Australia	GREENBIRD TECHNOLOGY www.greenbird.com.au
	Austria	HUEGLI TECH AG (LTD) www.huegli-tech.com
	Bangladesh	COMAP www.comap.cz
	Bosnia and Herzegovina	KOCH D.O.O. www.koch.ba
	Brazil	SERVINTEL INTERNATIONAL S.A. www.servintel.com
	Bulgaria	COMAP www.comap.cz
	Canada	COMAP LLC www.comapllc.com
	Chile	SERVINTEL INTERNATIONAL S.A. www.servintel.com
	China	JONES ENGINEERING CO., LTD. www.jones.com.hk
	Colombia	SOLUCIONES PRODUCTIVAS www.powergen.com.co
	Costa Rica	PROPAC INGENIERIA, S.A. www.propace.net
	Croatia	KOCH D.O.O. www.koch.ba
	Denmark	PTECH www.ptech.dk
	East Timor	GREENBIRD TECHNOLOGY www.greenbird.com.au
	Ecuador	SVF ECUADOR S.A. www.svf-international.com
	Egypt	POWER FOR CONTRACTING & ELECTRO. www.elmotahdagroup.com
	Estonia	TAPI MEC OY www.tapimec.fi
	Faroe Islands	PTECH www.ptech.dk
	Finland	TAPI MEC OY www.tapimec.fi
	France	H-T-F www.h-t-f.fr
	Germany	HUEGLI TECH AG (LTD) www.huegli-tech.com
	Greece	A. SAPOUNAS S.A. www.sapounas.gr
	Greenland	PTECH www.ptech.dk
	Hong Kong	JONES ENGINEERING CO., LTD. www.jones.com.hk
	India	MADHURA INTERNATIONAL www.madhura.net
	Indonesia	PT. FS POWER CONTROL www.fspowercontrol.com
	Iraq	COMAP www.comap.cz
	Ireland	INDUSTRIAL POWER UNITS LTD. www.ipu.co.uk
	Israel	GENERKAL INDUSTRIES LTD. www.generkal.co.il
	Italy	BIMOTOR S.R.L. www.bimotor.it
	Kazakhstan	COMAP SYSTEMS RU www.comapsystems.ru
	Kuwait	COMAP www.comap.cz
	Latvia	COMAP www.comap.cz
	Lebanon	JABBOUR DATAKOM S.A.R.L. www.jabbourpower.com
	Lithuania	COMAP www.comap.cz
	Luxembourg	CONTROLIN BV www.controlin.nl
	Macedonia	KOCH D.O.O. www.koch.ba
	Malaysia	SUNPOWER ENGINEERING & ENT. sunpower.ee@gmail.com
	Mexico	DUPONT ELEKTRIC MEXICO, SA DE CV www.dwppon.com
	Mongolia	COMAP www.comap.cz
	Netherlands	CONTROLIN BV www.controlin.nl
	New Zealand	GREENBIRD TECHNOLOGY www.greenbird.com.au
	Nigeria	MIKANO INTERNATIONAL LIMITED www.mikano-intl.com
	Norway	INDUSTRIMARIN AS www.industrimarin.com
	Pakistan	R.A. ENGINEERING & SERVICES www.raeng.com
	Papua New Guinea	GREENBIRD TECHNOLOGY www.greenbird.com.au
	Peru	COMAP www.comap.cz
	Philippines	STATIC POWER PHILIPPINES, INC. hajji.isyte@gmail.com
	Poland	BTH FAST www.bthfast.eu
	Portugal	GENCONTROL SYSTEMS, S.A. www.gencontrol.es
	Romania	COMAP www.comap.cz
	Russia	COMAP SYSTEMS RU www.comapsystems.ru
	Serbia and Montenegro	KOCH D.O.O. www.koch.ba
	Singapore	COMAP www.comap.cz
	South Africa	COMAP www.comap.cz
	South Korea	BOO YOUNG CORPORATION www.boo-young.com
	South Korea	EMECs ENGINEERING www.emecs.co.kr
	Spain	GENCONTROL SYSTEMS, S.A. www.gencontrol.es
	Sri Lanka	COMAP www.comap.cz
	Sweden	INDUSTRIMARIN SVERIGE AS www.industrimarin.com
	Switzerland	HUEGLI TECH AG (LTD) www.huegli-tech.com
	Taiwan	ARITH COMPANY LTD. www.arith.com.tw
	Tunisia	H-T-F www.h-t-f.fr
	Turkey	BETEX ENGINEERING IMPORT & EXPORT www.betex.com.tr
	United Kingdom	INDUSTRIAL POWER UNITS LTD. www.ipu.co.uk
	United States	COMAP LLC www.comapllc.com
	Uruguay	SERVINTEL INTERNATIONAL S.A. www.servintel.com.ar
	Vietnam	DP CONSULTING CO., LTD. www.dp-consulting.com.vn

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## Pictograms and short names

These pictograms are designed to help you visually associate which Accessories and PC tools are suitable for use with which controllers.

We have also provided both the full product names and their abbreviated shorter names to help you recognize and identify the products more easily.

If you look throughout the brochure you will see these icons appearing next to the relevant or associated product.

Full name	Short name	Pictogram
InteliATS <sup>NT</sup>	IA-NT	
InteliLite <sup>NT</sup>	IL-NT	
InteliCompact <sup>NT</sup>	IC-NT	
MainsCompact <sup>NT</sup>	MC-NT	
InteliGen <sup>NT</sup>	IG-NT	
InteliSys <sup>NT</sup>	IS-NT	
InteliGen <sup>NT</sup> and InteliSys <sup>NT</sup>	IG-NT/IS-NT	
InteliMains <sup>NT</sup>	IM-NT	
InteliDrive Lite	ID-Lite	
InteliDrive	ID	
InteliVision 8	IV8	—



#### Manufacturer

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#### Local Distributor / Partner



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**Customer satisfaction is our mission. We continuously develop the best people to succeed in our mission.**

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Specifications in this Product Guide are subject to change without notice.