
# KAre™
## KATSA *remote*

The most competitive
and flexible cloud based

## Asset IoT and monitoring solution on the market!


KATSA

*Katsa – Geared for You*

# KAre™
## KATSA remote

### KAre™
- Gathers
- Processes and comprises
- Transmits
- Stores
- Adds value
- Makes available just the information you need!

### KAre™ consist of
- Scalable hardware
- Safe and secure Finnish cloud service
- Browser based user interface

### KAre™ enables
- Scalable asset condition monitoring
- Scalable asset performance monitoring
- Combination with Katsa´s gearbox controller KAcon

### KAre™ add value for
- Fleet management
- Additional services (e.g. preventive maintenance)
- Future sales and leasing models
- Future R&D

### KAre™ example applications
- Single gearbox
- Mobile machines
- Vehicles
- Future R&D
- Industrial applications
- Rolling stock

### KAre™ hardware
- IP67 protected enclosure
- Two different main unit options
- AMPSEAL 35 main connector
- Optional customised wire harness
- Optional external antennas
- Optional VIBRO unit in same housing, providing on board spectral analysis FFT, envelope-curve FFT or trend analysis
- Optional LAN Connector for detailed vibration analysis

### KAre™ easy-to-use web browser user interface
- Graphical presentation of the collected sensor and CAN data
- Alarms for sensor values
- Location on an interactive world map
- Application running hours, start-up count and current running status
- Sensor key values: minimum, maximum, average, mean and uptime
- Different user profiles: determine the accessible applications for end users
- CSV export of the data

### KAre™ possible data sources
- Temperature sensors (1-Wire, PT100)
- Pressure sensors
- Pulse sensors for rotation speed measurement
- Sensors with a digital output (inductive, switches)
- J1939 / CANopen CAN message transmission (read-only)
- Oil condition sensor based on the electrical properties of the oil (viscosity, density, dielectric constant and temperature)
- Internal accelerometer data for a rough grasp of the vibration level
- Vibration sensors (IEPE, up to 12kHz)

Are you an asset owner, operator, OEM or service provider?

Are you interested in getting more information about your assets?

Live, 24/7, everywhere on the world and through the whole lifetime?

Information for condition and performance monitoring, running hours, location etc?

But are afraid of high CAPEX and OPEX costs?


## Customer case 1

**Special vehicle T-Case:**
- 8 bearing temperature sensor
- 1 oil temperature sensor
- 1 oil pressure sensor

## Customer case 2

**Mobile crusher:**
- 6 bearing temperature sensors
- 1 oil temperature sensor
- 2 oil pressure sensors
- 2 vibrations sensor
- Additional data via CANbus

KAre™
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KARe™
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# Technical details

| Communications and positioning | KARe Basic | KARe Plus | KARe Plus Vibro |
|---|---|---|---|
| GPRS 900/1800 MHz (Europe) | x | x | x |
| UMTS 900/2100 MHz (Europe) | x | x | x |
| GPS/GLONASS | x | x | x |
| External GPS/GPRS antenna | optional | optional | optional |
| WLAN | | optional | optional |

| Interface | KARe Basic | KARe Plus | KARe Plus Vibro |
|---|---|---|---|
| Main connector | AMPSEAL 35 | AMPSEAL 35 | AMPSEAL 35 |
| Connector pin coating | Gold | Gold | Gold |
| Multifunctional AI/DI pins | - | 4 | 3 |
| Multifunctional AI/DI/pulse pins | 2 | - | - |
| Pulse sensor input pins | - | 2 | 2 |
| DI pins | - | 12 | 12 |
| 1-wire temperature sensors | 12 | 12 | 12 |
| CAN bus connection | x | x | x |
| Maximum number of IEPE vibration sensors | - | - | 4 |
| Communications power-up pin | 1 | 1 | 1 |

| Enviroment | KARe Basic | KARe Plus | KARe Plus Vibro |
|---|---|---|---|
| Full performance temperature range | -30 - +70 °C | -30 - +70 °C | 0 - +70 °C |
| Degraded communication | -40 - +85 °C | -40 - +85 °C | - |
| IP class | 67 | 67 | 67 |

| Electrical properties | KARe Basic | KARe Plus | KARe Plus Vibro |
|---|---|---|---|
| Operating voltage | 6.8 ... 32 VDC | 8 ... 32 VDC | 19.2 ... 28.4 V |
| Typical operating current | < 100 mA | < 100 mA | < 300 mA |
| Peak operating current (< 1 s) | 1000 mA | 1000 mA | 1200 mA |
| Internal fuse | 3 A | 3 A | 3 A |
| Analogue input voltage range from 0 to | 5 V | 5,-10,-20,-40 V | 5,-10,-20,-40 V |
| Internal battery | Li-Po 200 mAh | Li-Po 200 mAh<br>opt. 1700 mAh | Li-Po 200 mAh<br>opt. 1700 mAh |

Note: Maximum number of pulse, analogue and position sensors depends on the KAre model and the other sensor choices as some of the IOs are multi-functional.

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