

CMPT CTU System

Flexible vibration and temperature transmitter for customized solutions

CMPT CTU

The CMPT CTU transmits vibration and temperature levels using 4 to 20 mA, 0 to 10 V DC or CAN-bus messages. It can be used as part of a machinery fault detection system for fans, pumps, motors, gearboxes, etc.

Along with temperature the CMPT CTU measures three types of vibration signals – SKF's acceleration enveloping (gE), acceleration (g) or velocity (mm/s or inch/s). The type of vibration analysis is user selectable from the front switches.

The CMPT CTU has special functions for low speed machinery. It can monitor unbalance and misalignment down to 120 r/min, bearing and gearbox condition down to 20 r/min.

Each CMPT CTU has a CAN-bus interface for remote communication with a control system or operator terminal. This enables remote configuration and monitoring of the CMPT CTU. The CAN-bus allows multiple numbers of CMPT CTU modules to be connected by a serial communication cable. This greatly reduces the wiring and improves the CMPT CTU's capabilities. The CAN-bus protocol is described in the CMPT CTU Instruction Manual.

CMPT CTU can be delivered as a turn-key solution with an operating terminal for alarm display, alarm logging and advanced alarm management.

Features

- 24/7 vibration and temperature fault detection
- Choice of vibration analysis:
 - SKF's acceleration enveloping filter 3
 - Acceleration (3 Hz to 10 kHz)
 - Velocity (ISO)
 - Velocity (2 to 1 000 Hz)



- Configurable on front panel switches
- Front panel lamp indicates sensors and CMPT CTU faults
- 4 to 20 mA or 0 to 10 V DC analog output signals for connection to control systems
- CAN-bus messages for communication with control systems or operator terminal
- DIN-rail mounted
- Easy access for SKF Microlog connection to BNC with buffer vibration and temperature output

Ordering information

- **CMPT CTU** Vibration and temperature transmitter unit



24/7 fault detection monitoring with CMPT CTU and operating terminal

Up to 64 distributed CMPT CTUs can be connected to one operating terminal (CMPT HMI). Each CMPT CTU analyzes both vibration and temperature overall levels 24/7. Communication is initiated by the CMPT CTU when alarm occurs. The terminal displays an alarm list including alarm events log and operators acknowledgement of alarms log.

The CMPT HMI can be delivered with a 3.5 in. or 5.7 in. touchscreen. They are always delivered with alarm list preprogrammed to use with the CMPT CTU alarm configuration software. Multiple languages can be selected during the configuration. The alarm list can be downloaded to an USB memory flash drive.

The terminal can be customized with process views and alarm information for individual projects and customers. Output relays can be added as an option or CMPT HMI can be connected to a PLC for data exchange. Alarm events can be communicated by OPC interface, SMS or e-mail.

The CMPT CTU is simple to install and little knowledge is demanded of operators after the alarm level is set. CMPT CTU configuration software for PC's and CMPT CAN communication unit is used to set up alarm levels in each CMPT CTU.

Key fetures

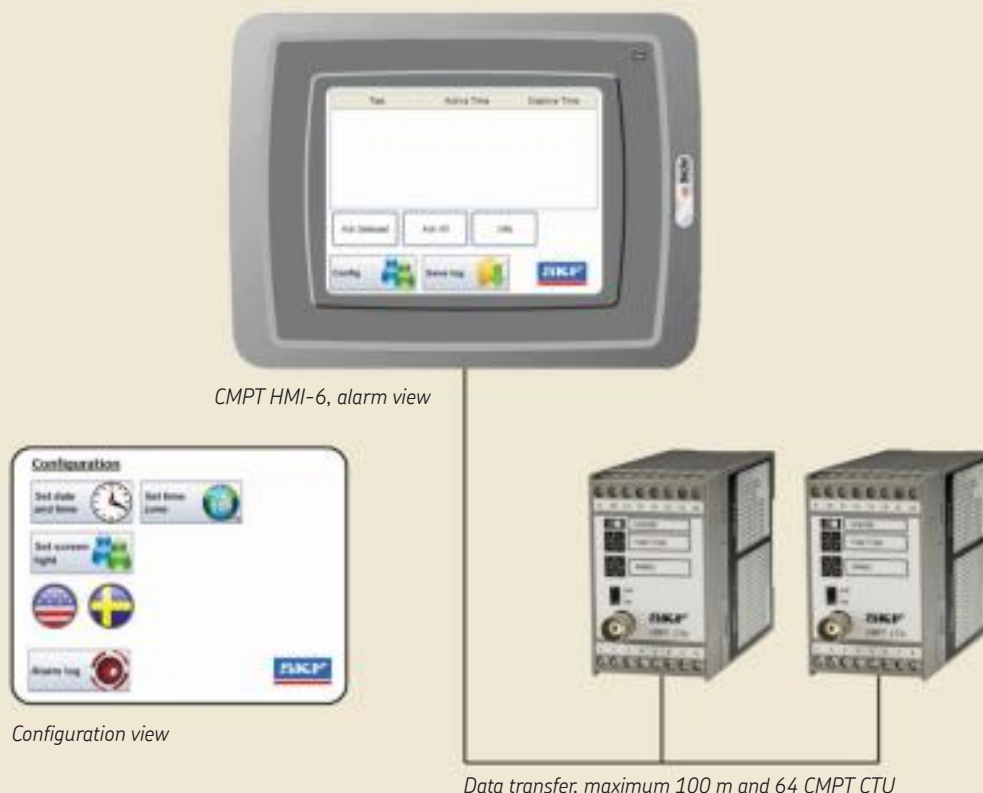
- System with up to 64 CMPT CTU
- Analyzes 24/7 on all channels
- Alarm log with activation, deactivation and acknowledgement time
- Multiple languages
- Download alarm list to USB memory flash drive
- Customized solutions with:
 - Process view
 - Alarm information
 - SMS or e-mail communication
 - OPC communication
 - Alarm relays

Ordering information

- **CMPT CAN** – CTU communication unit and CMPT CTU configuration software
- **CMPT HMI-4** – 3.5 in. touchscreen terminal
- **CMPT HMI-6** – 5.7 in. touchscreen terminal

CMPT HMI can be delivered installed in a customized enclosure with CMPT CTU's and power supply.

Typical fault detection monitoring system



Enhance CTU capability with SKF ST-1240 lubrication control system

SKF ST-1240 is a microprocessor-based control center for SKF DuoFlex, SKF MonoFlex and SKF ProFlex lubrication systems. SKF ST-1240 can be used for controlling two separate lubrication channels or lubrication systems.

In addition to lubrication control, machinery fault detection functions can also be integrated in the center. Up to ten CMPT CTU units can be interfaced with lubrication control center SKF ST-1240-GRAPH.

The lubrication center is used for:

- Displaying temperature
- Displaying one or more processed vibration signals
 - Acceleration RMS
 - Acceleration PH output
 - Velocity RMS
 - Acceleration enveloping 3 PH
- Setting the alarm limits for measured parameters
- Alarming (visual and relays)
- Displaying vibration and temperature trends

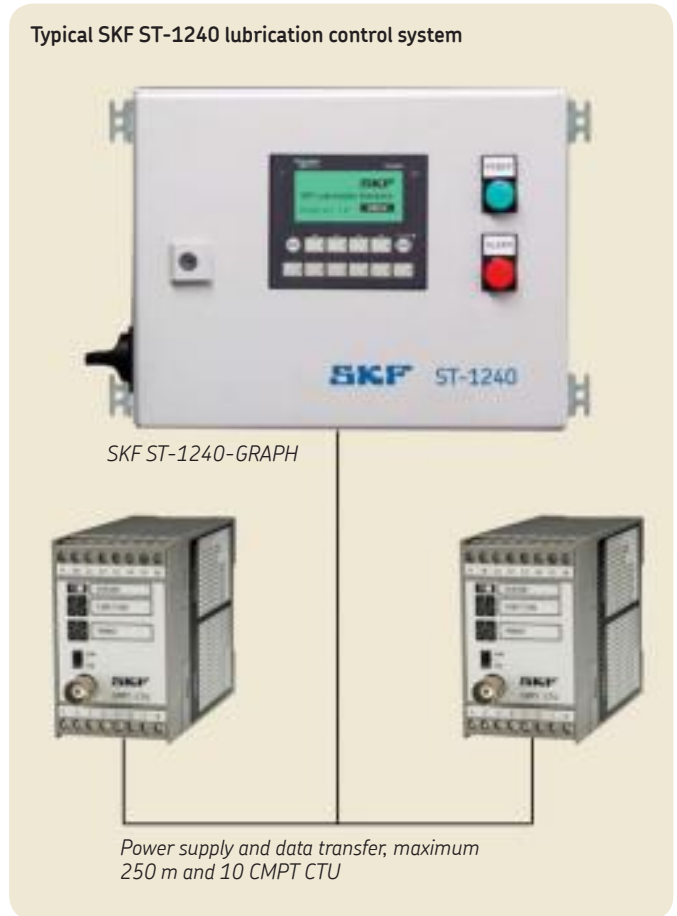
The touch screen graphic of the SKF ST-1240 interface is used for:

- Setting measurement parameters, sensor type and target naming
- Setting alarm limits and parameters
- Displaying status and measured values
- Displaying trends

Each CTU has individual status and setting display pages.



Typical SKF ST-1240 lubrication control system



The vibration and temperature measurements are saved in the memory of the lubrication center for trending. Two kinds of graphs for vibration and temperature can be displayed:

- **Daily graph**
 - Last day is divided into 24 slots. Each slot represents average value of one hour.
- **Monthly graph**
 - Last month is divided into 30 slots. Each slot represents average value of one day.

Ordering information

- VGEV12380214 – SKF ST-1240-GRAPH-COMO

CMPT CTU kits

The CMPT CTU kits are fault detection systems made for general applications, such as fans, pumps, gearboxes and electric motors. The system is based on the SKF Copperhead fault detection unit (CMPT CTU), and the alarm and display module (CMPT DCL). Standard enclosure is made of polycarbonate with a window for a clear view of components. It is delivered with power supply for CMPT CTU and CMPT DCL units. All components are installed in enclosure and tested. Power supply, sensor input signals and processed output signals are connected to terminals at the bottom of the enclosure for easy access. Enclosure has finished cable entries. All parts are DIN-rail mounted in enclosures.

Standard polycarbonate enclosure is 400 × 300 × 185 mm (15.8 × 11.8 × 7.3 in.) with transparent front. It is recommended to install the enclosure in a well ventilated area with temperature always below 25 °C (77 °F).

CMPT CTU kits need 100 to 240 VAC power supply.



Sensors

Recommended sensors to use with the CMPT CTU are:

- **CMPT 2310T** with integrated cable, 5, 10 or 15 m (16, 33 or 49 ft.)
- **CMSS 2100T** with 3-pin connector

CMSS 793T or CMSS 797T cannot be used with CMPT CTU due to differences in power supply of temperature sensor.

Ordering information

CMPT CTU System

Each CMPT CTU has one (1) Vibration and one (1) Temperature channel. Maximum number of CMPT CTU depends on enclosure configuration.

Part number		CMON <u>XXXX</u> - <u>ZZ</u>
<u>XXXX</u>	<u>Enclosure configuration</u>	
8101	4 to 20 mA output terminals Maximum four (4) CMPT CTU	
8102	0 to 10 V DC output terminals Maximum four (4) CMPT CTU	
8103	One (1) display/relay unit (CMPT CTU) monitoring each vibration channel Maximum two (2) CMPT CTU	
8104	One (1) display/relay unit (CMPT CTU) monitoring each vibration and temperature channel Maximum two (2) CMPT CTU	
8105	CAN-bus output terminals Maximum four (4) CMPT CTU	
<u>ZZ</u>	<u>Number of CMPT CTU</u>	

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