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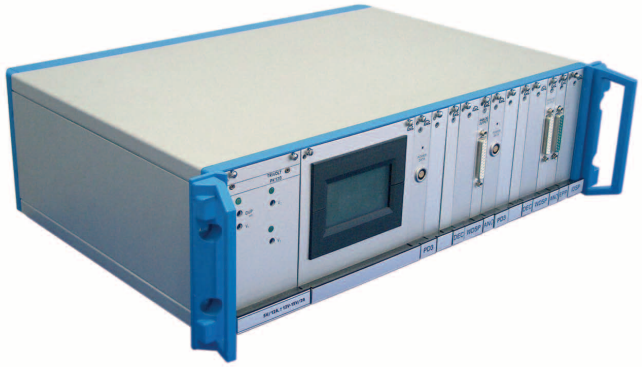
# Control Room Electronics System 2000 Type 9887A...

## Digital Electronics for RoaDyn® S6xy in Test Stand Mode

Control room electronics for non-spinning 6-component RoaDyn measuring hubs. The control room electronics System 2000 unit is designed specifically for the needs of vehicle test stands.

- Automatic identification of measuring wheel components
- Web interface: with standard web browser
- High sampling rate (5 kHz) and resolution (16 bit)
- Analog outputs and digital interfaces with minimal signal delay (<1 msec)
- Clear, intuitive menus
- Versions with different digital interfaces for test stand electronics available



### Description

The control room electronics system is used for processing digital data of up to two RoaDyn S6xy systems. The sensor dispatched digitalized signals of the force load cells are transformed online into a coordinate system fixed relative to the wheel and the forces and moments affecting the sensor are calculated. The system is operated by means of a built-in touch screen or a web browser (e.g. internet explorer) at any PC or web terminal. This is used to set the zeros of individual channels, mounting position of the sensor, lever arm compensation and scaling of the analog and digital outputs. For the channel offsets three storage locations are available to record the zeros in different operating states. Diagnostic tools can also be activated. In addition to the web browser handling, the provided software allows to store and reload different configurations.

Analog and digital outputs are available: an ethernet interface and special versions for digital connection to test stand electronics (IST, MTS, Moog).

The identification, calibration and zero data of the individual forces is stored in the control room electronics. The web interface additionally offers to import the compensation matrix created during calibration of the RoaDyn S6xy system. When the electronics unit is activated the components automatically identify themselves and allow systematic computation based on the available individual values.

The fact that the measured individual signals are known allows rapid troubleshooting in the event of malfunctions. The incoming signals are filtered in the hub electronics and sampled at 5 kHz and a resolution of 16 bits. The signal delay arising between the measuring time and signal output is less than 1 ms.

### Application

The control room electronics System 2000 unit has been developed for transmitting and processing the force signals from the RoaDyn S625, S635, S650, S660, S6HT and S6XT measuring wheel systems. Its 19" case accommodates plug-in cards for one or two wheel sensors.

### Technical Data

**Hub Electronics, Type 5243A...**

| | | |
|---|---|---|
| Weight | kg | 0,35 |
| Temperature range | °C | 5 ... 50 |
| Number of channels | | 12 ... 24 |
| A/D conversion | | |
| Resolution | bits | 16 |
| Sampling rate | Hz | 5 000 |
| Anti-aliasing filter | | |
| Butterworth | | 6 poles |
| Cut-off frequency –3 dB | Hz | 1 500 |

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**Control Room Electronics, Type 9887A...**

| | | |
|---|---|---|
| 19" case, 84U high, 3U deep | | |
| Dimensions without handles (WxHxD) | mm | 450x140x315 |
| Power supply | | |
| Voltage | V | 115 ... 230 |
| Frequency | Hz | 47 ... 63 |
| Power consumption with 2 wheel sensors | W | 64 |
| Temperature range | °C | 5 ... 50 |

**Analog Outputs**

| | | |
|---|---|---|
| Channels/wheel | | 8 |
| Output sensitivity | | selectable |
| Output voltage range | V DC | ±10 |
| Noise voltage (rms) | mV | <3 (0 ... 300 Hz) |
| Resolution | bits | 14 |
| Delay | ms | <1 |
| Connector for each wheel | | D-Sub female 25 way |
| Output rate | kHz | 5 |

**Digital Outputs (Special Design Depending on Type of Test Stand)**

| | | |
|---|---|---|
| Channels/wheel | | 8 |
| with 2 sensors | | 16 |
| Output rate (depending on test stand electronics) | Hz | approx. 5 000 |
| Delay | ms | <1 |

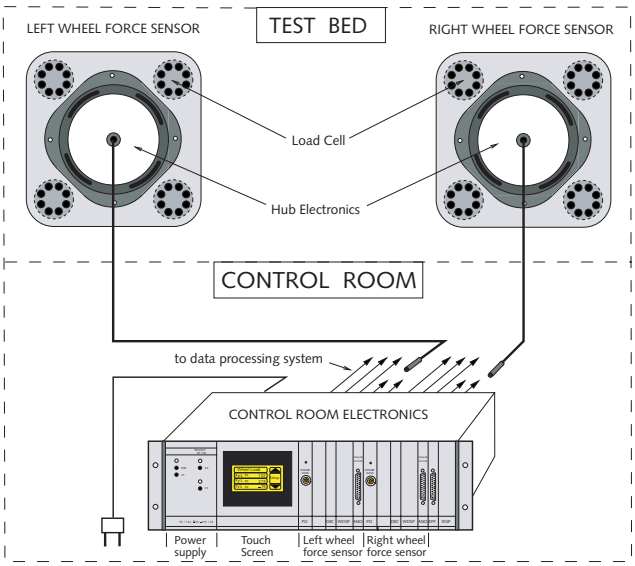


Fig. 1: Control room electronics System 2000

## Mounting

The control room electronics unit is installed in a suitable location in the test room. The cables from the hub electronics are plugged into the relevant PD3 card using a Lemo connector. Lengths of up to 50 m are readily available. The power supply is connected to the test laboratory line power. The control room electronics unit is connected to the test stand electronics via the analog data outputs (D-sub or BNC).

| **Accessories included** | **Type/Art. No.** |
|---|---|
| **Control Room Electronics** | |
| • Basic case incl. AC power supply 115 ... 230 V, | 9887A0 |
| IDSP-ETH card incl. web interface v1.x | Z30587A2 |
| 1 pc. for 1 or 2 measuring sensor systems | |
| • Power cable, 1 pc. | V104.0001 |
| • PD3 card, 1 pc. per measuring sensor | 5625A3... |
| • DEC card, 1 pc. per measuring sensor | 5299A |
| • WDSP card, 1 pc. per measuring sensor | 5295A... |
| • ANO card, 1 pc. per measuring sensor | 5297A |

## Ordering Key

**Type 9887A** ☐

**Control Room Electronics**

| | |
|---|---|
| Number of wheel force sensors 1 analog (5 pin) | **1000Q1** |
| Number of wheel force sensors 2 analog (5 pin) | **2000Q5** |
| Number of wheel force sensors 1 analog (6 pin) | **1100Q1** |
| Number of wheel force sensors 2 analog (6 pin) | **2100Q4** |

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