Electronics & Software

KISTLER

measure. analyze. innovate.

On-Board Electronics PremiumLine   Type 9867A...

for RoaDyn® P1xy PremiumLine and P6xy

The on-board electronic system PremiumLine is used for control, power supply and signal conditioning in measuring wheel testing, and in conjunction with the RoaDyn P1xy PremiumLine and P6xy torque measuring wheels with a slip ring data transmission module. Depending on requirements, up to four measuring wheels can be connected to the on-board electronics.

• For analog slip ring data transmission
• For up to four measuring wheels including power supply
• Includes power supply
• Connection for manual remote control
• Radio and television interference suppression on all channels

Description

In the basic version Type 9867A10, the on-board electronics PremiumLine consists of the case, a power module, a control module and a Type 5617 RoaDyn I/O module for a RoaDyn measuring wheel. The on-board electronics is set up for the connection of up to four RoaDyn measuring wheels and can be supplemented with three additional Type 5617 RoaDyn I/O modules. The power supply for the on-board electronics comes from the vehicle power supply (battery) via a connecting cable.

The remote control is used to operate the on-board electronics, to set the measuring range and to reset the forces/torques. This remote control can be used to switch the range and actuate the "Operate" command. The ZeroCal (offset correction) button is of importance only for RoaDyn P6xy torque measuring wheels and is not needed for the RoaDyn P1xy torque measuring wheels. The functions selected are indicated by means of LEDs on the remote control. In addition to or instead of the remote control, the remote control function can also be operated via an RS-232C serial interface.

The start/stop process of the customer's data acquisition system can take place via the optionally available trigger box, in which the on-board electronics is connected at the back to the customer's data acquisition system with a special BNC connector. The LEDs of the optional trigger box indicate the "Measure" status, and in the event of an overload of one of the measuring wheels will also indicate the "Overload" condition.

As a visual display element, the on-board electronics includes LED's for "Power" on the power module, for each individual measuring wheel on the Type 5617 RoaDyn I/O module concerned and for "Rec" on the control I/O module. In the event

of an overload, the "Overload" condition of the measuring wheel connected is also indicated by LED on the Type 5617 RoaDyn module concerned.

The on-board electronics is connected via D-Sub-25 connectors for the incoming RoaDyn connections and D-Sub-15 connectors for the outgoing connections.

In the basic version, the rear panel of the on-board electronics consists of a pin contact strip and can optionally be configured with a customized interface card. This optional interface is available in the form of a terminal strip for customized connections/connectors.

Technical Data

Power supply	VDC	9,5 ... 18
Power consumption with 1 RoaDyn	W	4
Power consumption with 4 RoaDyn	W	15
Number of Type 5617 RoaDyn I/O modules max.		4

Analog Inputs/Outputs (Type 5617 Module)

Number of channels per RoaDyn I/O module		12
Input voltage range	V	–5 ... 5
(differential amplifier)		
Output voltage range	V	–5 ... 5
Output current range	mA	–2 ... 2
Gain error	%	<0,1
Frequency range	kHz	0 ... >20
(at 10 Vpp output signal)		
Low-pass filter (can be switched in)	Hz	without/50/500
High-pass filter (can be switched in)	Hz	without/0/0,1
Max. interference signal at the output	mVpp	<5
(0,1 Hz ... 1 MHz, with dynamometer connected)		

KISTLER

measure. analyze. innovate.

Digital Signals

Digital outputs for LED (Remote Control Box)		
Digital outputs for RoaDyn		open collector
(electrically isolated, active Low)		
/Operate, /Zero-Cal (low pulse approx. 80 ms),		
/Range		

Internal Overload Detection

Overload threshold	V	>±5,8

General Data

Weight (incl. 4 Type 5617 modules)	kg	2,7
Dimensions (width/depth/height)	mm	235,2/245/88
Operating temperature range	°C	0 … 50
Min./Max. temperatures	°C	–10/60

Power Supply for RoaDyn®, Electrically Isolated

Supply voltage for RoaDyn, stabilized	VDC	±10
(per RoaDyn I/O module)		
Max. output current	mA	±200
(per RoaDyn I/O module)		

Interface

Serial		RS-232C
Baud rate	Baud	9 600

Connections

Connection to the RoaDyn		
1x per RoaDyn I/O module		D-Sub (f), 25 pin
Analog outputs		
1x per RoaDyn I/O module		D-Sub (f), 15 pin
Connection to remote control box		
1x		Lemo (f), 7 pin
Connection to trigger box		
1x		Lemo (f), 6 pin
Power supply (4-pole Binder)		
1x		DIN (f), 4 pin
RS-232C		
1x		D-Sub (f), 9 pin

Dimensions
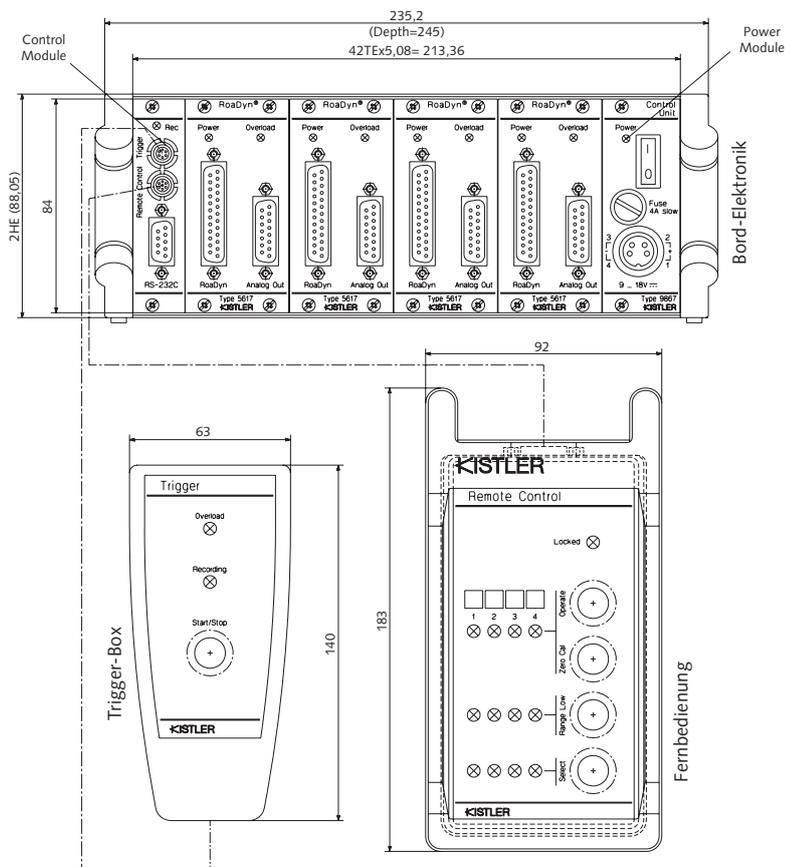
Fig. 1:   Dimensions of Type 9867A... on-board electronics PremiumLine

9867A_000-533e-07.07

KISTLER

measure. analyze. innovate.

Applications

The on-board electronics PremiumLine can be used for various types of Kistler measuring wheels:

RoaDyn P103: 1-component torque measuring wheel (M_y) with slip ring data transmission for passenger cars

RoaDyn P106: 1-component torque measuring wheel (M_y) with slip ring data transmission for heavy passenger cars, light commercial vehicles and SUV's

RoaDyn P625: 6-component wheel force sensor with slip ring data transmission for passenger cars (with unprocessed or processed signals)

RoaDyn P650: 6-component wheel force sensor with slip ring data transmission for cars and light-duty trucks (with unprocessed or processed signals)

Depending on the type of measuring wheel, the Type 5617 RoaDyn module must be configured individually and for the particular type of measuring wheel and signal. When using and exchanging RoaDyn P1xy PremiumLine and P6xy within a measuring chain with the Type 9867A… on-board electronics PremiumLine, ensure that the DIP switches on the individual Type 5617 RoaDyn I/O modules are set to the particular type of measuring wheel.

Included Accessories

	Type/Art.-No.
• Basic unit	7.511.282
• 1 off RoaDyn I/O module	5617
• Remote control	7.511.284
• Connecting cable, remote control – on-board electronics, l = 5 m	5.590.222
• Connecting cable, on-board electronics – battery, l = 2,5 m	5.590.223

Optional Accessories

	Type/Art.-No.
• Connecting cable l = 7 m (for RoaDyn P1xy/P6xy)	1763B7
• Internal terminal strip at the back of the control unit for customized connection/connector (see ordering key)	
• Trigger box with cable l = 5 m	5.311.077
• RS-232C connecting cable l = 5 m	1200A27
• Transport case for on-board electronics	7.070.071
• Connecting cable D-Sub (m) 15 pin 9 x BNC (m), l = … m	Z18436sp

Ordering Key

Type 9867A ☐ ☐

Number of RoaDyn Modules

1 of RoaDyn module Type 5617 for RoaDyn P1xy or P6xy	**1**
2 of RoaDyn module Type 5617 for RoaDyn P1xy or P6xy	**2**
3 of RoaDyn module Type 5617 for RoaDyn P1xy or P6xy	**3**
4 of RoaDyn module Type 5617 for RoaDyn P1xy or P6xy	**4**

Internal Terminal Strip at the Back
for Customized Connection/Connector

Without terminal strip	**0**
With terminal strip	**1**