KISTLER
measure. analyze. innovate.

Summing Box

IP65, single and dynamometer signal summation

Type 5417
Type 5417Q01

With the summing box, the electrical charges of a maximum of four 3-component force sensors are interconnected.

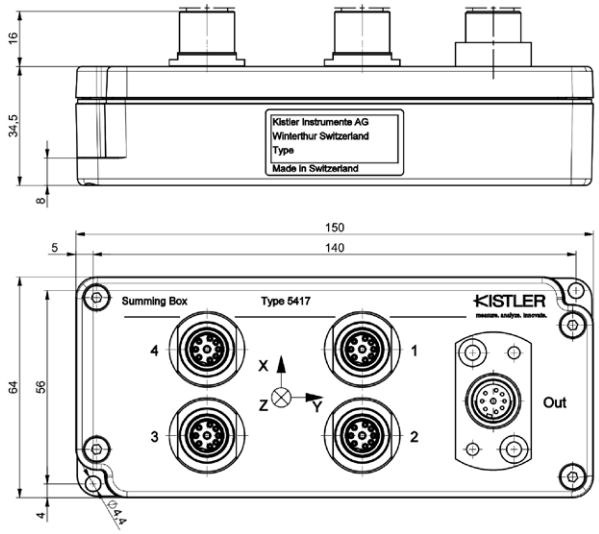
The assignment of the individual sensor connections corresponds to the sensor arrangement of a dynamometer.

A maximum of 8 measuring signals are available at the output socket, equal to the Kistler standard dynamometers.

The connection to the charge amplifier is made with a 3-wire cable (for triaxial force measurement) or with an 8-wire cable (for 6-component measurement).

If connections are not used, the sockets must be closed with a cover.

The summing box is NOT ground insulated.

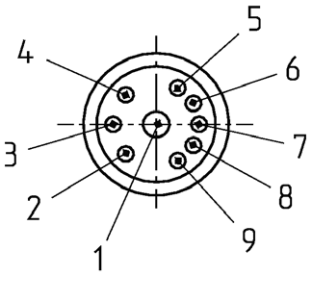


Technical data

Operating temperature range	°C	–40 ... 80
Protection class / EN60529 Unplugged		IP63
Plugged together with cable connector		IP65
Insulation resistance	Ω	≥1E13Ω

Output signal

Mass	1
X_{1+2}	2
X_{3+4}	3
Y_{1+4}	4
Y_{2+3}	5
Z_1	6
Z_2	7
Z_3	8
Z_4	9



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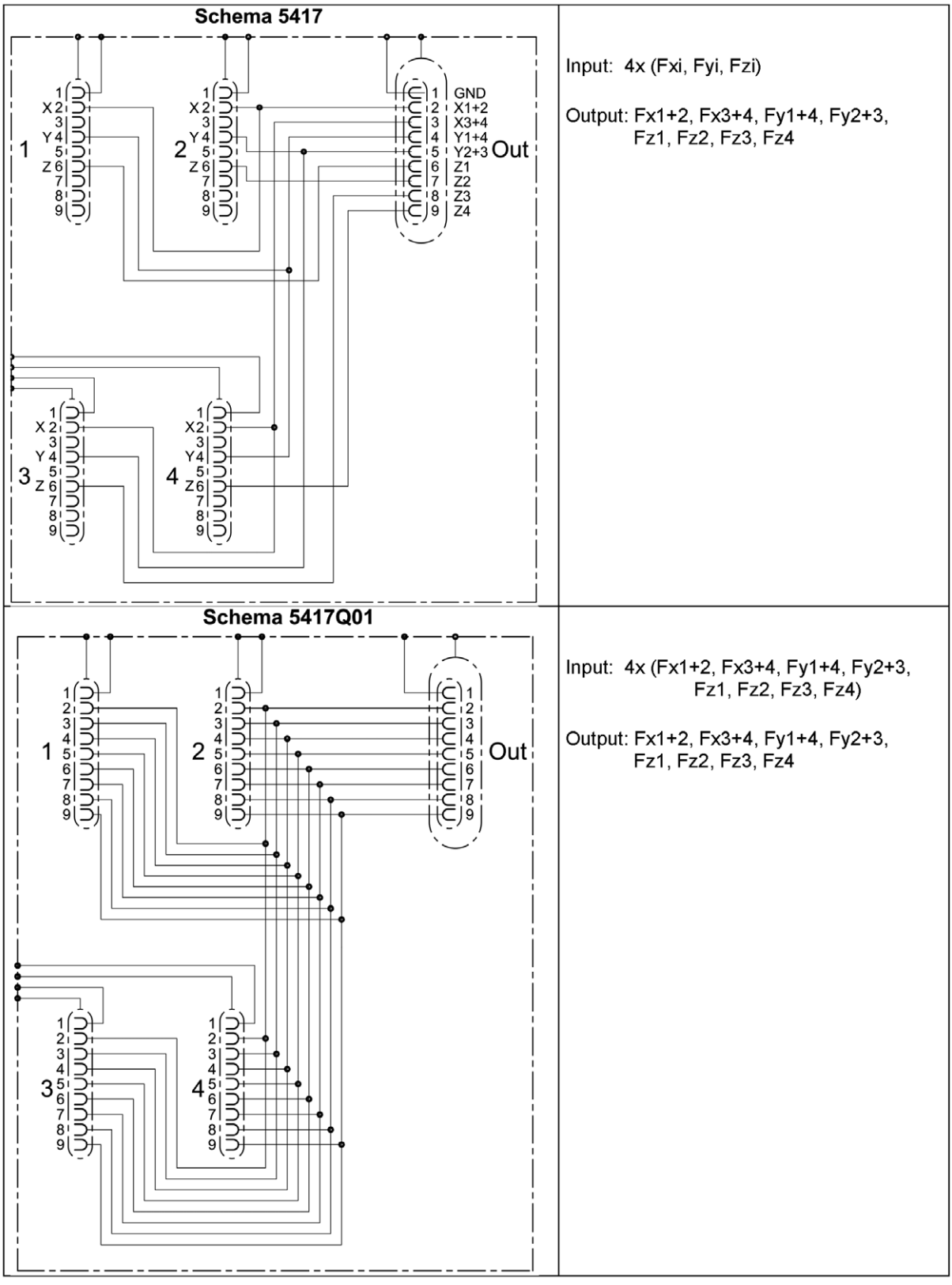
Circuit diagram



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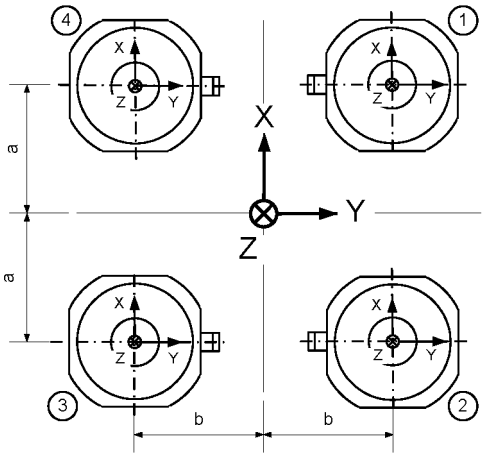
Force/Moment calculation (Type 5417 only!)

$Fx = Fx_{1+2} + Fx_{3+4}$
$Fy = Fy_{1+4} + Fy_{2+3}$
$Fz = Fz_1 + Fz_2 + Fz_3 + Fz_4$
$Mx = a \bullet (Fz_1 + Fz_2 - Fz_3 - Fz_4)$
$My = b \bullet (- Fz_1 + Fz_2 + Fz_3 - Fz_4)$
$Mz = b \bullet (- Fx_{1+2} + Fx_{3+4}) + a \bullet (Fy_{1+4} - Fy_{2+3})$



Application

The parallel connections are routed as "single wire". To avoid crosstalk, the conditions are as follows:

All channels should be connected to a charge amplifier. If one or two input terminals are not used, the sockets must be closed with a cover.

Standard application:
Summing box with all 4 cables connected.

Special application:
Summing box with covers.

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