

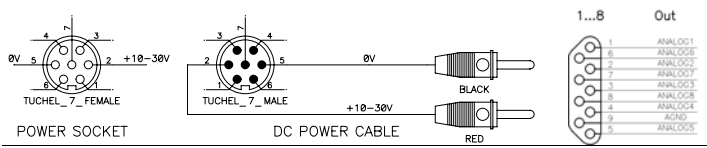
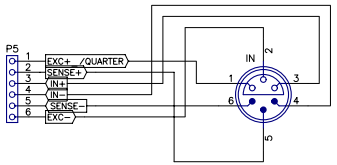
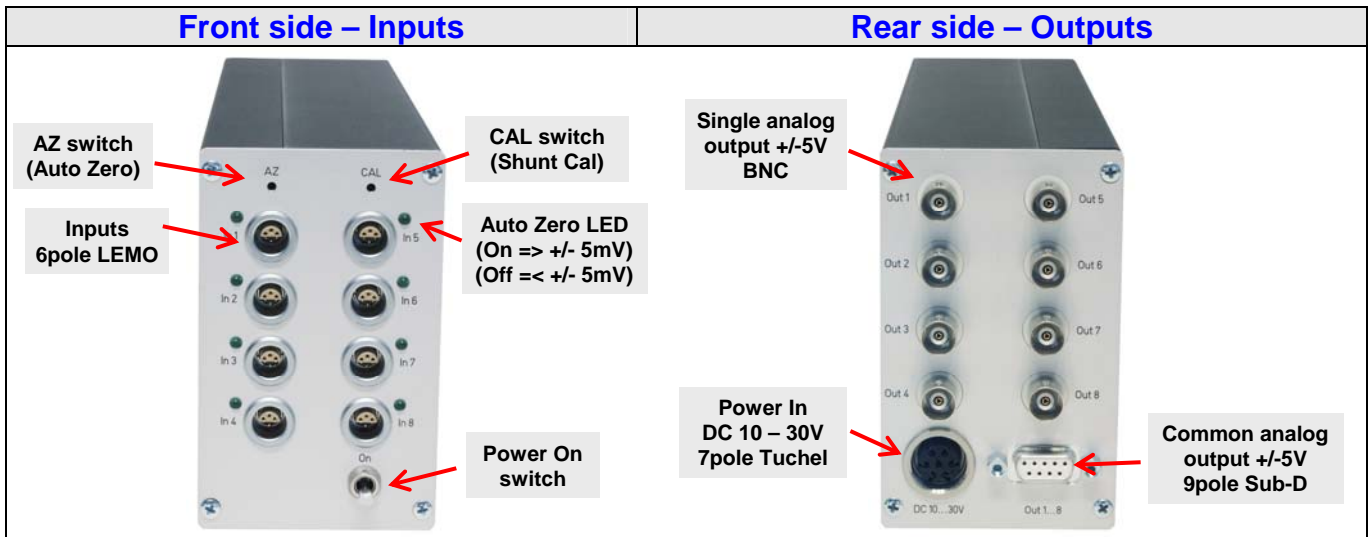
User manual

SC-8


8-channel measuring amplifier



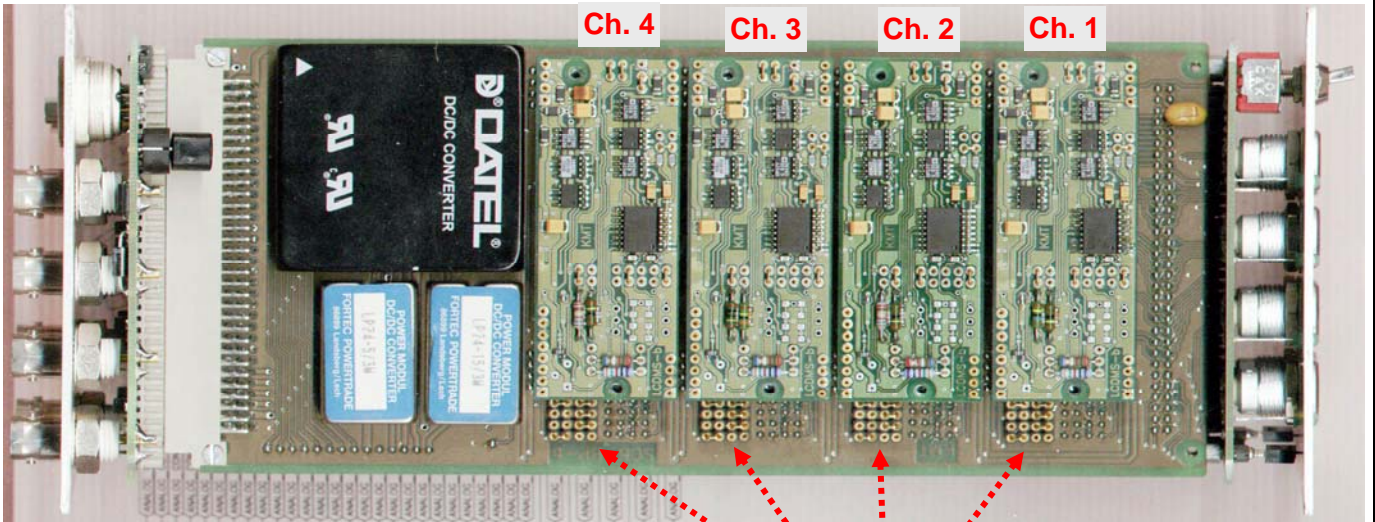
with signal conditioning modules for:
STG, LVDT, ISO, THERMO,
F/V, ICP, FILTER ...



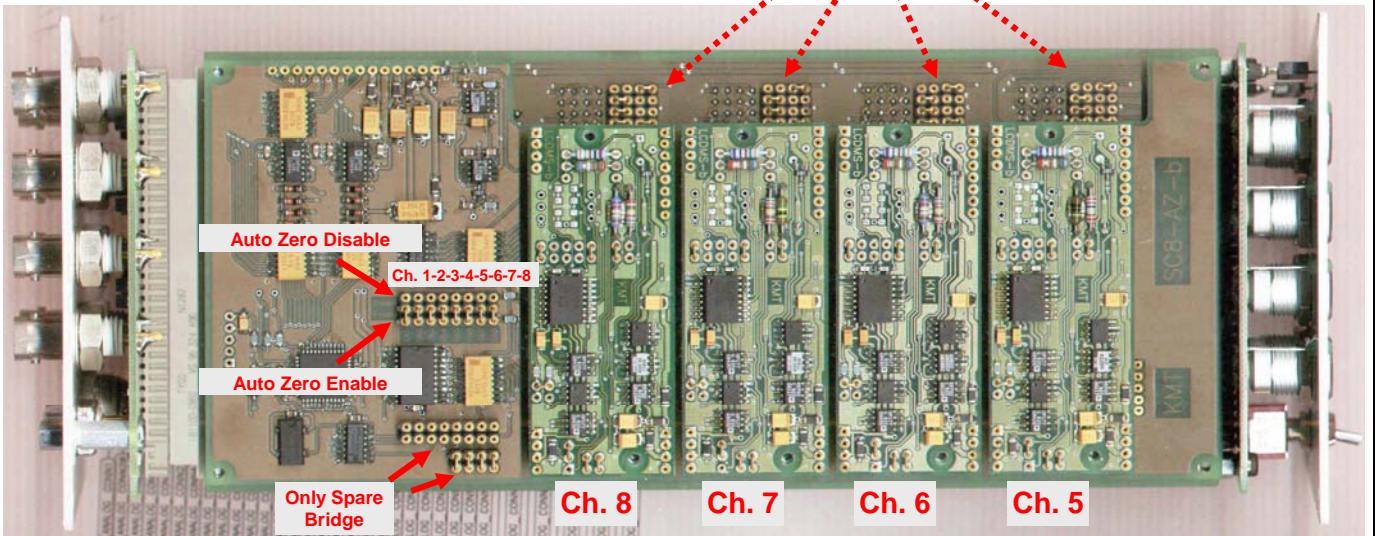
Dimensions: 65 x 105 x 250 mm, Weight 1.5kg, Powering: 10-30V DC, Operating temperature range: - 20°C ... + 80°C

To measure:	Module	Description	Characteristics
Force, pressure, strain, torsion, material stress	STG	Strain gauges 	<ul style="list-style-type: none"> Full, half, quarter bridges in 2- and 3-wire technique (120Ω, 350Ω, 1kΩ) Settable gain (2, 10, 100, 1000) Settable bridge supply (4V, 8V) Auto-zeroing Additive 5kHz fixed filter (2pol. Butterworth)
Distance	LVDT	Inductive distance sensor	<ul style="list-style-type: none"> Settable gain (1, 2, 5, 10) Sensor supply 5kHz, ±5V Auto-zeroing
Frequency, speed by pulse frequency	F/V	Frequency-to-voltage converter	<ul style="list-style-type: none"> Settable maximum frequency (500Hz, 2.5kHz, 10kHz) Minimum frequency 40Hz Signal amplitude 0.3-10V Square, sine and triangle wave forms 10Hz output filter (2pol. Butterworth)
Acceleration, oscillation, vibrations, acoustic	ACC	Acceleration sensor based on STG	<ul style="list-style-type: none"> all common sensors
	CAP	Capacitance accelerometer	<ul style="list-style-type: none"> Measuring ranges ±3g, ±10g, ±50g Shock resistance 10.000g Frequency ranges 0-160Hz (±3g), 0-350Hz(±10g), 0-550Hz (±50g)
	ICP	Piezoelectric accelerometer and microphones	<ul style="list-style-type: none"> Excitation current 1mA, 2mA, 4mA, 20mA (optional others) Excitation voltage 30V Gains 0.5, 1, 2, 4, 8, 16, 32 (optional others) Signal bandwidth 5-16000Hz
Temperature	THERMO	Thermo wires Type J, K (T)	<ul style="list-style-type: none"> Measuring range from -20°C up to +500°C Gain 10mV/°C Internal cold junction compensation Optional galvanic isolation with integrated ISO module
	Pt100	Thermo resistors from Pt100 / Pt1000	<ul style="list-style-type: none"> Measuring range from -20°C up to +500°C Gain 7.7mV/°C Excitations 0.25, 0.5, 0.75, 1mA for Pt100 Optional galvanic isolation with integrated ISO module
Galvanic isolated voltage	ISO	Isolation amplifier	<ul style="list-style-type: none"> Additive isolated sensor excitation Input ±10V Optional 4Hz fixed filter (4pol. Butterworth)
Voltage	VOLT	No signal conditioning	<ul style="list-style-type: none"> Input ±2.5V, ±5V (default), ±10V, ±15V, ±20V, ±25V Auto-zeroing up to ±250mV Input resistance >100kΩ (depends on range) Optional bridge excitation ±15V
	FILTER	Optional filter for all modules	<ul style="list-style-type: none"> 8th order elliptical or linear phase frequency response, more than 2000 cut off frequencies from 10Hz to 7,5kHz available (reciprocal scaling)

Main board settings

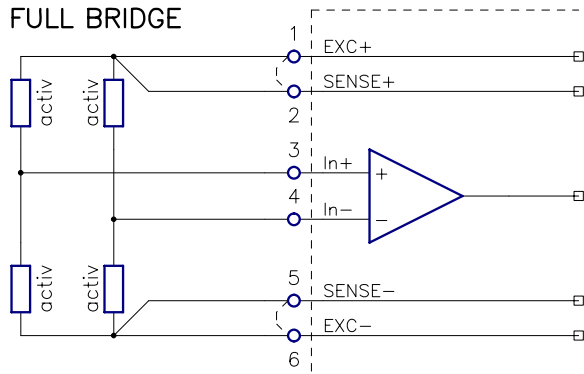


See STG board settings

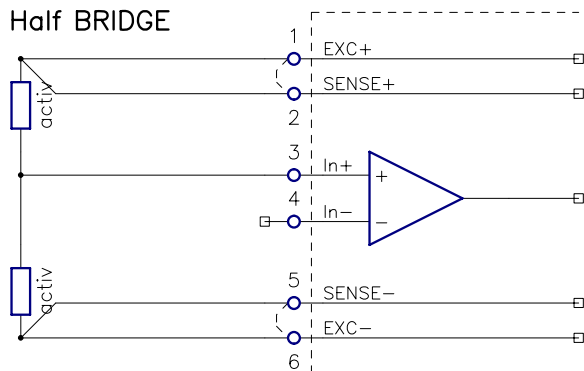


Pin connection for „STG” module - LEMO 6 pole

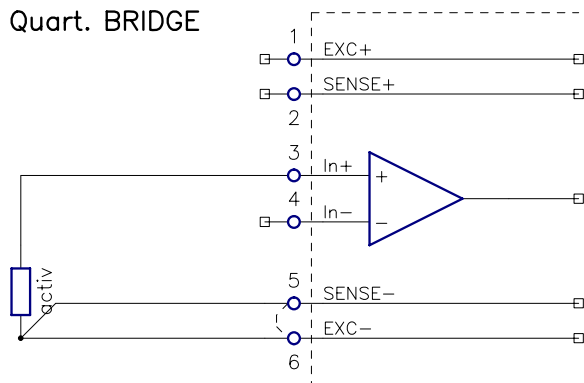
FULL BRIDGE



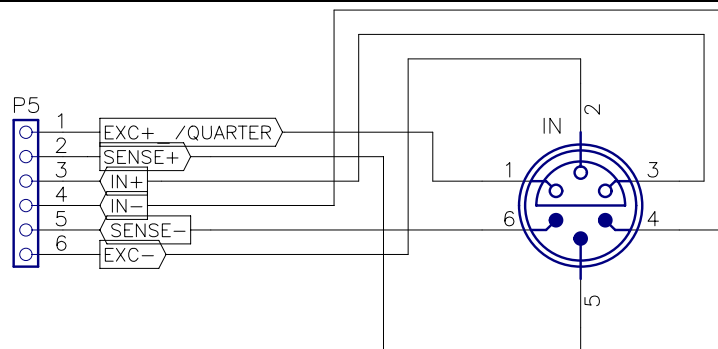
Half BRIDGE



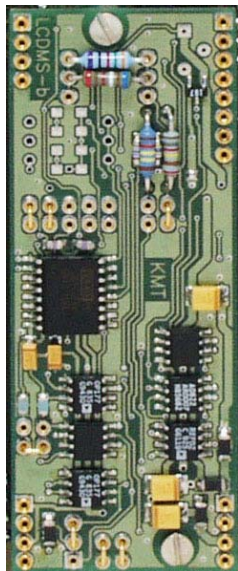
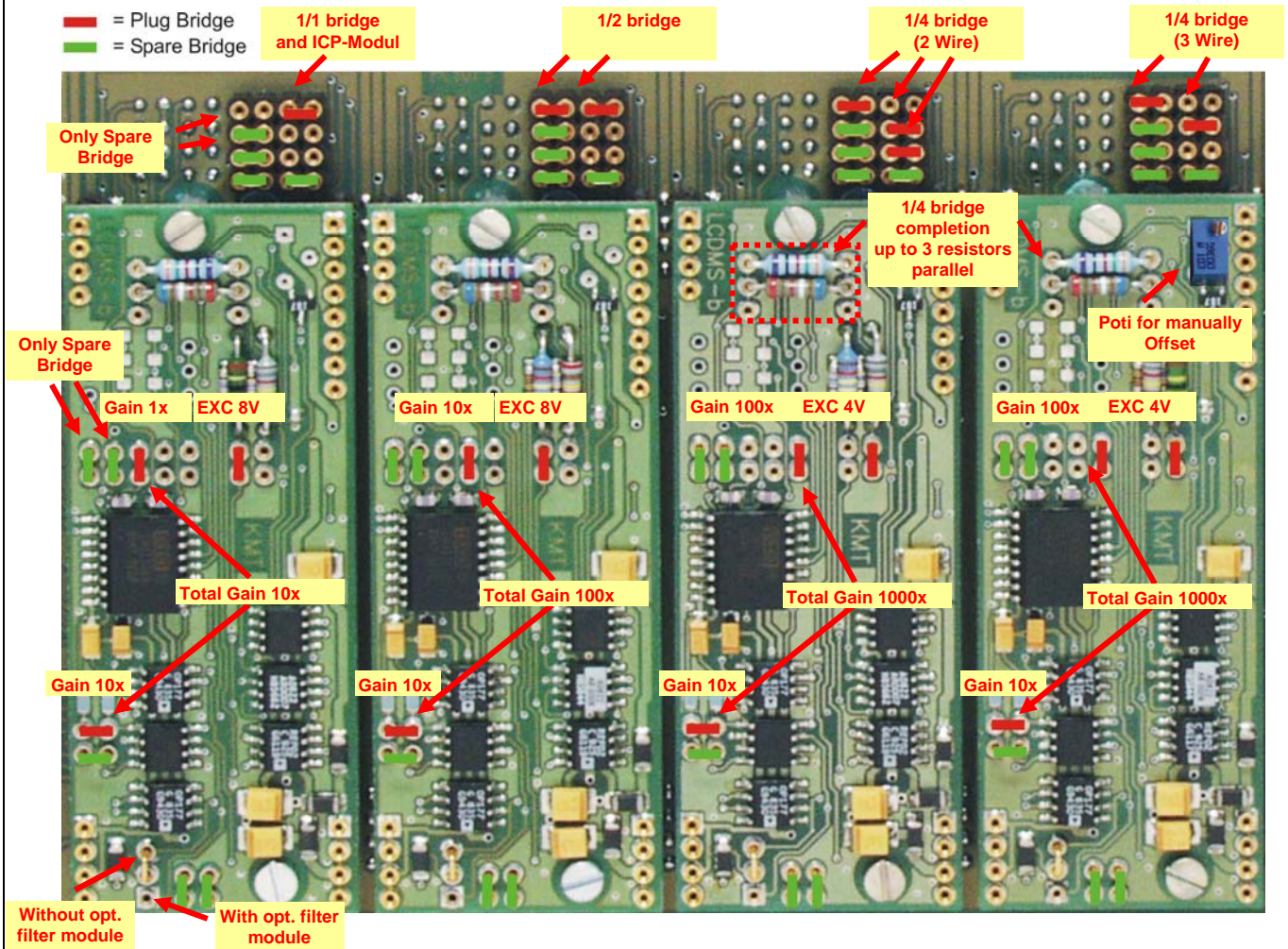
Quart. BRIDGE



LEMO 1 Plug



STG board settings

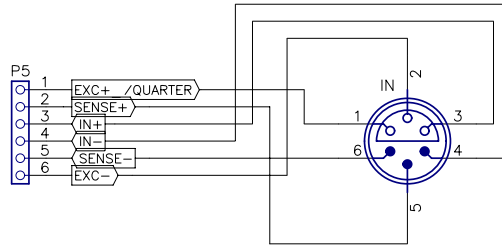


Signal conditioning for STG (strain gages)

Input voltage range:	$\pm 5V$, $Z_{in} = 10M\Omega$
Output voltage range:	$\pm 5V$, $I_{max} = 5mA$
Linearity error:	$\pm 0.1\%$
Gain:	10 – 100 – 1000 (programmable by jumper)
Excitation voltage:	4V, 8V (programmable by jumper)
Auto Zero:	is stored at power off
STG Bridges:	Full, half and quarter from 120 Ω to 1k Ω Quarter bridge completion can be altered by plugged resistors

Pin connection for „ICP” module

Main board setting for ICP – Module like Full – Bridge (1/1Bridge)



Pin 3 = + IN - Pin 4 = - IN

Signal conditioning for ICP® and compatible sensors

Gain: 0.5, 1, 2, 4, 8, 16, 32 (programmable by jumper)
 Current: 1mA, 2mA, 4mA, 20mA (programmable by jumper)
 Excitation voltage: 30V max
 Output voltage range: $\pm 5V$, $I_{max} = 5mA$
 Linearity error: $\pm 1\%$
 Signal band width: 5 – 16000Hz



Gain settings		Excitation settings	
	0.5		8
	1		1mA
	2		2mA
	4		4mA
	8		20mA
	16		
	32		
	32		

Changed jumpers will only initialized after power off/on!