

CMA

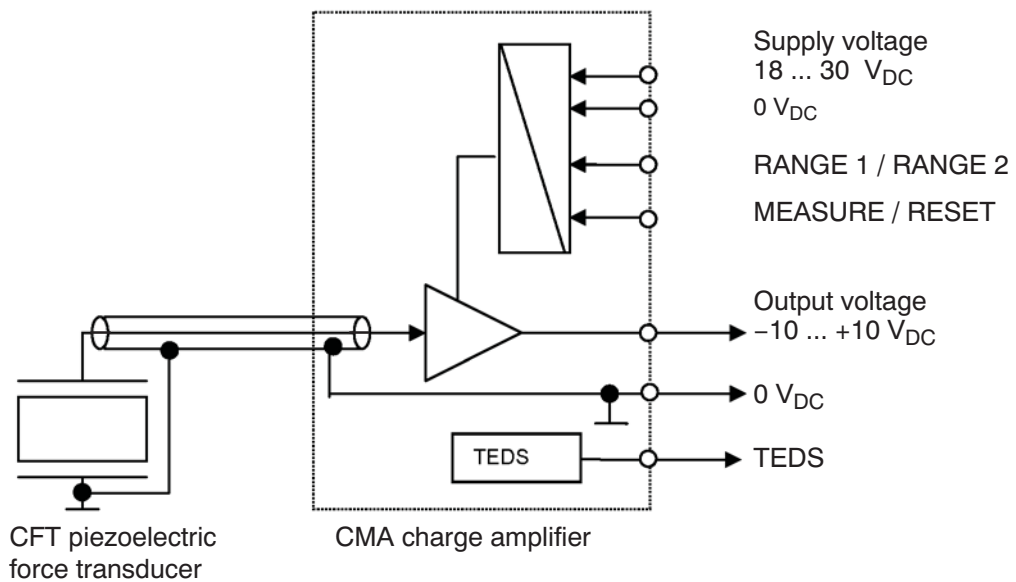
Charge amplifier



Special features

- Compact, robust design
- Two measuring ranges 10:1
- TEDS sensor identification
- External control of measuring range
- ±10 V signal output
- All signal I/Os electrically isolated

Block diagram



Specifications (data per VDI/VDE 2638 standards)

Charge amplifier		CMA				
Max. charge input	pC	39500	158300	210500	287000	482000
Calibrated measuring ranges	% F_{nom}	100; 20				
Output span	V	± 10				
Output span tolerance	V	± 0.5				
Relative reversibility error, $0.5 \times F_{nom}$	%	< 1 (typ. 0.5)				
Relative linearity error	%	< ± 1 (typ. 0.5)				
Effect of temperature on output span / 10K	%	< 0.5				
Nominal temperature range	$^{\circ}C$	0 ... 70				
Drift	pC/s	< 0.1				
Cut-off frequency	kHz	10 (-3dB)				
		5 (-1dB)				
Supply voltage	V	24 (18 ... 30)				
Power consumption	W	< 2				
Output resistance	Ω	< 10				
Permissible load resistance	k Ω	> 5				
Control inputs (electrically isolated)						
Reset/Measure step	pC	< ± 2				
Measure mode	V	MEASURE	0 ... +5 or open			
	V	RESET	12 ... 30			
Measurement range	V	RANGE 1	0 ... +5 or open			
	V	RANGE 2	12 ... 30			
Electrical connection		Force transducer 10 – 32 UNF Output/supply M12 x 1, 8-pin				
Degree of protection		IP 65				

Connector and cable Assignment

Supply voltage 0 V (GND)

RANGE 1 / RANGE 2

RESET / MEASURE

TEDS

Output signal -10 – +10 V

Signal ground

Do not assign !

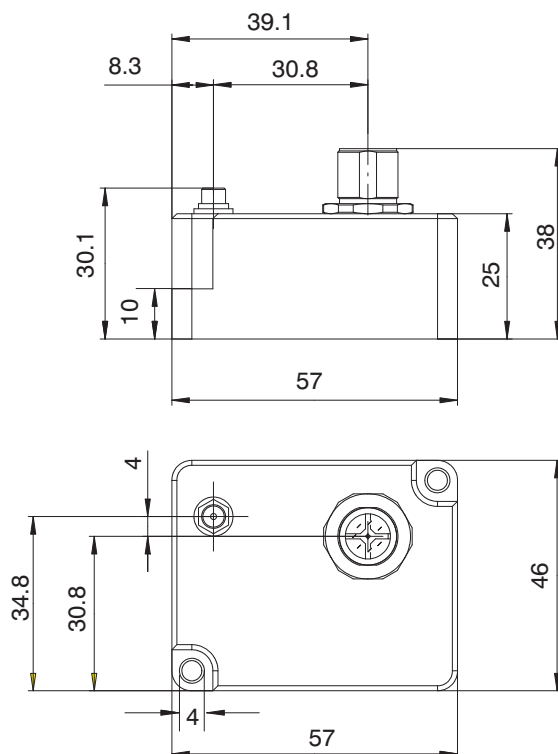
Supply voltage 18 – 30 V_{DC}¹⁾

Connection cable wire assignments KAB 168

M12 x 1, 8pol

¹⁾ Operation with SELV circuit (separated extra low voltage)

Dimensions



Bending radius of the connection cable: $R = 9.75 \text{ mm}$

Scope of supply

Order number	
1-CMA39	Single channel charge amplifier for piezoelectric sensors, measuring range: 39 500 pC
1-CMA158	Single channel charge amplifier for piezoelectric sensors, measuring range: 158 000 pC
1-CMA210	Single channel charge amplifier for piezoelectric sensors, measuring range: 210 000 pC
1-CMA287	Single channel charge amplifier for piezoelectric sensors, measuring range: 287 000 pC
1-CMA482	Single channel charge amplifier for piezoelectric sensors, measuring range: 482 000 pC

Accessories (not included in the scope of supply):

1-KAB168-5	8-core cable to subsequent electronics, 8-wire, M12x1 cable plug, 5 m long, free ends
1-KAB168-20	8-core cable to subsequent electronics, 8-wire, M12x1 cable plug, 20 m long, free ends
1-KAB143-3	Connection cable, coaxial, 3 m long

Regional Distributor



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