

**Technical data  
ESW<sup>®</sup>-Mini-C-252**

operation voltage	24V DC $\pm$ 10%
current input	max. 45mA
temperature range	0°C to 65°C
type of protection	IP 65
case	Aluminium pressure-die-casting (AlSi12), powder coated (RAL 7001) Sealing ring: Neoprene
case dimensions	98 x 34 x 64mm (w x h x d)
weight	approx.400g (without cable), approx.800g (with cable)
connecting cable	5m, SD 90 C/ <b>Kaweflex 6430 SK-C</b> , 7 x 0,34mm <sup>2</sup> , firmly fixed oil resistant cable for outdoor, cover material: PVC/ <b>PUR</b> min. bending radius: 50,25mm/ <b>53,25mm</b> <b><u>after s/n: 3917-2721 the connection cable 6430 SK-C will be used!!</u></b>
screw-type conduit fitting	M16x1,5 Brass CuZn39Pb3, nickel-plated Lamellar insert: Polyamide PA6 V-2 Sealing ring: Polychloroprene-Nitrile rubber CR/NBR O-Ring: Nitrile rubber NBR
sensor	integrated vibration sensor
measuring value	vibration velocity in mm/s
measuring range	0 to 50mm/s
signal assessment	arithm. average, aligned to RMS
frequency range	10Hz to 1kHz (-3dB)
filter	Butterworth, 40dB/dec resp. 12dB/oct
analogue output	4 to 20mA, current source, proportional to measuring value
load	max. 500Ohm
switching output	potential free relay contact (30V, 1A)
switching threshold	10% to 100% of measuring range, adjustable by step switch in the case  switching threshold prefixed at 25mm/s = 50% by factory step switch fixed with locking varnish
switching delay	rise time delay 10s fixed by factory fall time delay 0,5s fixed by factory
cable connection	pink +Ub                                      brown opener blue ground                                      yellow closer grey analog output                              green middle contact white analog ground
	shield is connected with case, not with ground
line monitoring	The switching contacts are closed in their normal position, the relays are activated (excited). In the case of alarm, voltage drop or cable breakage, the switching outputs become highly resistive because the switching contacts are deactivated.

**function monitoring:**

permanent test	test of the voltages, transducer- and controller- functions
self-test	- testing of the signal chain, duration of the self test: 1 - 2,5s - after power-on the ok-relay switches 1 time and the alarm-relay 2 times for checkup. During the automatic tests both relays will not switched  If self-test or permanent function-test detects an error, the alarm-relay will drop down - the contacts opens and the analog output provides 22mA.
starting the self-test	- everytime after power-on, duration approx. 2,5s - automatic approx. every 24h, duration approx. 1s

Inside the unit the alarm-relay and the ok-relay are connected in series. In case of alarm, internal error and voltage drop both relays fall down in their normal position (not energized) – the switching contacts are deactivated.

To check the complete functions of the unit it is necessary to make the self-test in periodic intervals – including the switching-ability of the alarm-relay. The frequency of this verification is determined by the operator.

**Attention:** During the self-test function the analog output will not be observed. Therefore it's prohibited to use this output for security-related functions. This signal output only has briefing character.

**The technical construction complies:**

Performance-Level PL-c (in accordance to EN13849)

Categorie Cat.-2

Diagnostic-Coverage DC = low

$DC = \lambda_{DD} / \lambda_D = 90,88\%$

Mean time to failure MTTFd = high

$MTTF = 1 / \sum \lambda = 235,9 \text{ Jahre}$