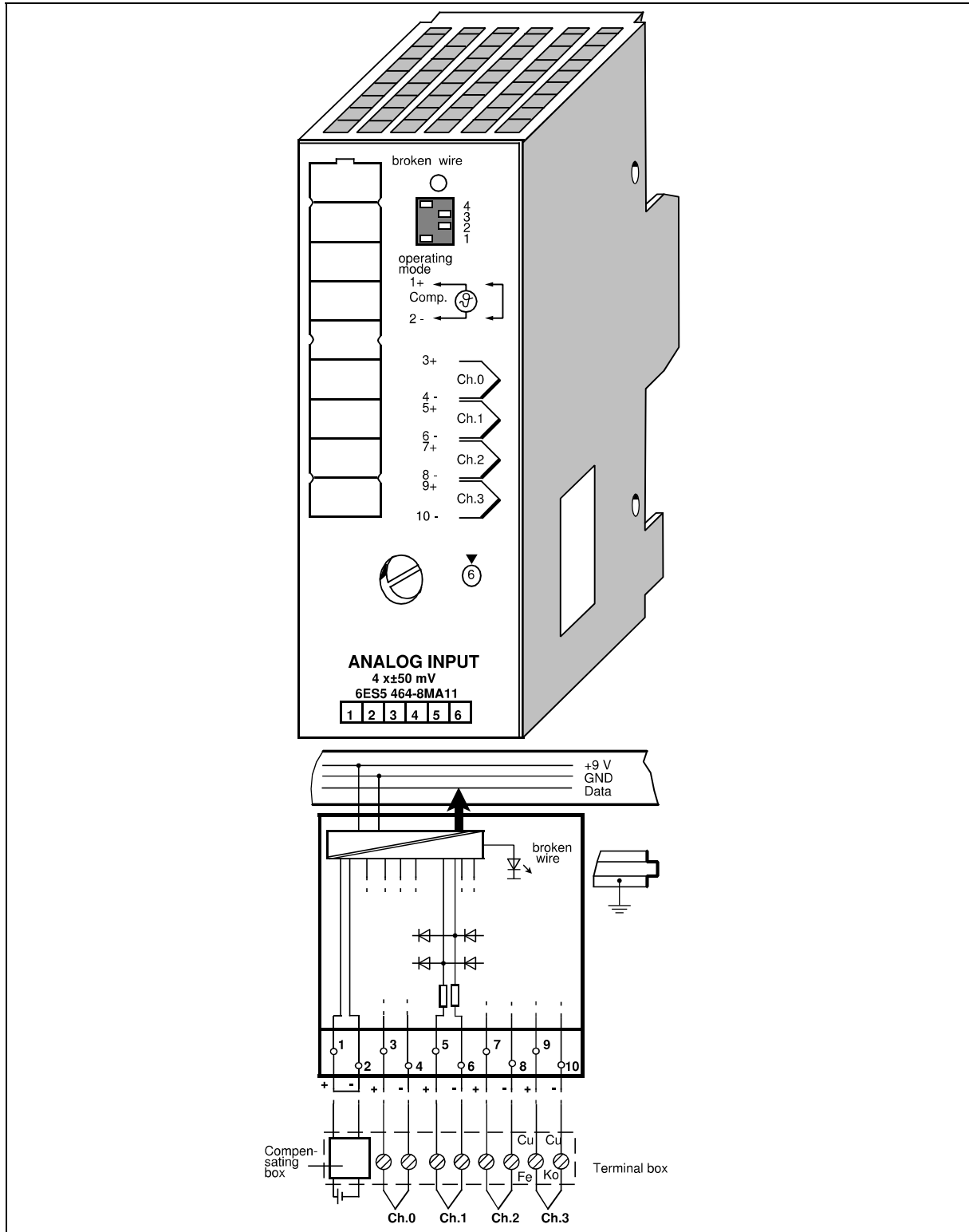


14.7 Analog Modules

14.7.1 Analog Input Modules

Analog Input Module 4 x ± 50 mV

(6ES5 464-8MA11)



Analog Input Module 4 × ±50 mV (continued)

(6ES5 464-8MA11)

Technical specifications			
Input ranges (rated values)	±50 V	Noise suppression for f=nx (50/60 Hz±1%); n=1, 2, ...	
Number of inputs	1, 2 or 4 (selectable)	- common-mode rejection (V _{pp} =1 V)	min. 86 dB
Galvanic isolation	yes (inputs to grounding point; not between inputs)	- series-mode rejection (peak value of noise <rated value of input range)	min. 40 dB
Input resistance	10 M	Basic error limits	±0.15 %
Connection method of sensors	two-wire connection	Operational error limits (0 to 60 °C) (32 to 140 °F)	±0.4 %
Digital representation of input signal	12 bits+sign (2048 units = rated value)	Single errors	
Measured value representation	two's complement (left-justified)	- linearity	±0.05 %
Measuring principle	integrating	- tolerance	±0.05 %
Conversion principle	voltage-time conversion (dual slope)	- polarity reversal error	±0.05 %
Integration time (adjustable for optimum noise suppression)	20 ms at 50 Hz 16.6 ms at 60 Hz	Temperature error	
Encoding time per input		- final value	±0.01 %/K
- for 2048 units	max. 60 ms at 50 Hz	- zero point	±0.002 %/K
- for 4095 units	max. 50 ms at 60 Hz max. 80 ms at 50 Hz max. 66.6 ms at 60 Hz	Length of cable	
Permissible voltage difference		- shielded	max. 50 m (164 ft.)
- between inputs	max. ±1V	Supply voltage L+	none
- between inputs and central ground point	max. 75 V DC/60 V AC	Connection of com- pensating box	possible
Permissible input voltage (destruction limit)	max. 24 V DC	Insulation rating	VDE 0160
Fault indication for		Rated insulation voltage (+9 V to $\varnothing$)	12 V AC
- range exceeded	yes (more than 4095 units)	- insulation group	1xB
- sensor wire break	yes (selectable)	- tested with	500 V AC
- general indication of wire break	red LED	Rated insulation voltage (inputs to+9 V)	60 V AC
		- insulation group	1xB
		- tested with	500 V AC
		Current consumption	
		- from+9 V (CPU)	typ. 70 mA
		Power loss of the module	typ. 0.7 W
		Weight	approx. 230 g (8 oz.)