

ABB MEASUREMENT & ANALYTICS

# Web Tension Systems with Tension Electronics PFEA113 User Manual



**3BSE029382R0101 en Rev D**

## A.4 Technical Data

Table A-2. Data for Supply Voltage

	Data	Comments
<b>Supply voltage</b>		
IP 20-unit (unsealed)	24 V DC	18 - 36 V DC
IP 65-unit (NEMA 4)	24 V DC	18 - 36 V DC
	85 - 264 V AC	100 V -10% to 240 V +10%
<b>Mains frequency</b>		
	47 - 63 Hz	100-240 V AC, 0.2 - 0.1 A
<b>Power consumption</b>		
	15 W (24 V)	Digital outputs not included
<b>Fuse</b>		
IP 20-unit (unsealed)	Automatic reset	
IP 65-unit (NEMA 4)	Slow blow, 2 A, 250 V	

Table A-3. Data for Load Cell Excitation

	Data	Comments
<b>Current</b>	0.5 A rms, 330 Hz	Regulated
<b>Max. load</b>	Four load cells + max. 10 $\Omega$ cable resistance (1 $\mu$ F cable capacitance).	Load cells of type: PFCL 301E, PFTL 301E, PFRL 101, PFTL 101, PFCL 201 and PFTL 201.

Table A-4. Data for Load Cell Inputs

	Data	Comments
<b>Number of inputs</b>	4	
<b>Input impedance</b>	10 k $\Omega$	

Table A-5. Data for Signal Outputs

	Data	Comments
<b>Voltage output</b>	0 - 10 V	Range -5 to +11 V
Max. load	5 mA	
Ripple	<10 mV <sub>p-p</sub>	Wrap gain = 1
Step response time	5 ms	
Band width	132 Hz	
<b>Current output</b>	4 - 20 mA	Range 0 to 21 mA
Max. load	550 Ω	
Step response time	5 ms	
Band width	132 Hz	
<b>Additional filtering for voltage and current output "FilterSettings"</b>	Step response time:	Cut-off frequency:
	15 ms	35 Hz
	30 ms	15 Hz
	75 ms	5 Hz
	250 ms	1.5 Hz
	750 ms	0.5 Hz
	1500 ms	0.25 Hz
<b>Wrap gain adjustment</b>	0.5 - 20	

Table A-6. Data for Analog Inputs

	Data	Comments
<b>Signal range</b>	0 - 10 V	

Table A-7. Data for Digital Inputs

	Data	Comments
<b>Logic levels</b>	Passive: -36 V to +5 V Active: >16 V (max. + 36 V)	For change of state, the pulse length must be min. 100 ms.

Table A-8. Data for Digital Outputs

	Data	Comments
<b>Rated current (state 1)</b>	0.1 A per output	

Table A-9. Measurement Ranges for the Tension Electronics

Type	Range <sup>(1)</sup>
<b>Zero Setting Range</b>	$\pm 2.0 \times F_{\text{nom}}$
<b>Dynamic Measurement Range (including zero set)</b>	$-2.5 \times F_{\text{nom}}$ to $+ 3.5 \times F_{\text{nom}}$

(1)  $F_{\text{nom}}$  = Load cell nominal load

Table A-10. Communication PFEA113

	Data	Comments
<b>Profibus</b>	1	12 Mbit
Communication protocol	Profibus DP slave	According to EN 50 170
Transfer speed	Max. 12 Mbits / s	
Address range	0 - 125	
RS-232		Not used

Table A-11. Environmental Data

	Data	Comments
<b>Temperature dependence</b>		
Zero point drift	< 50 ppm/K (28 ppm/°F)	
Sensitivity drift	< 75 ppm/K (42 ppm/°F)	
<b>Operating temperature</b>		
Outside the IP 20-version (unsealed) and IP 65-version (NEMA 4)	+5 to +55 °C (32 - 131 °F)	
<b>Non-operating temperature</b>		
	-40 to +70 °C (-40 - 158 °F)	
<b>Degree of protection</b>		
DIN-rail version	IP 20 (unsealed)	
Wall mounting unit	IP 65 (NEMA 4)	According to EN 60 529

Table A-12. Dimensions

	Data	Comments
<b>Dimensions</b>		
IP 20-version (unsealed)	124 x 136 x 110	Width x Height x Depth
IP 65-version (NEMA 4)	300 x 200 x 159	Width x Height x Depth
<b>Weight</b>		
IP 20-version (unsealed)	0.8 kg	
IP 65-version (NEMA 4)	5.2 kg	

## A.5 Factory Default Settings

Table A-13. Factory Default Settings

Name	PFEA113
<b>Display language</b>	English
<b>Display unit</b>	N
<b>Load cell combination</b>	Two rolls
<b>Gain scheduling</b>	No
<b>Roll 1</b>	
• Object type	Standard roll
• Load cell nominal load	1.0 kN 225 lbs
• Wrap gain	1
<b>Roll 2</b>	
• Object type	Standard roll
• Load cell nominal load	1.0 kN 225 lbs
• Wrap gain	1
<b>AO1</b>	
• Function	Current
• Connect signals	A+B
• Filter settings	250 ms
• High tension	2000 N
• High output	20.00 mA
• Low tension	0 N
• Low output	4.00 mA
• High limit	21.00 mA
• Low limit	0.00 mA
<b>AO2</b>	
• Function	Current
• Connect signals	C+D
• Filter settings	250 ms
• High tension	2000 N
• High output	20.00 mA
• Low tension	0 N
• Low output	4.00 mA
• High limit	21.00 mA
• Low limit	0.00 mA