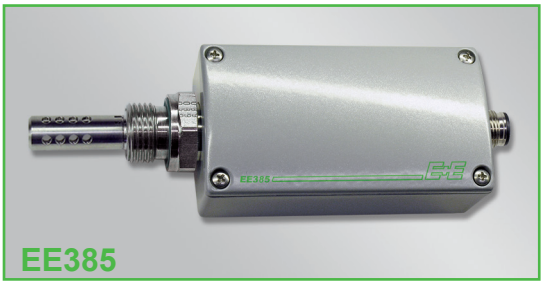
EE385

Compact Moisture Content in Oil Transmitter for OEM Applications

E+E Transmitter Series EE385 are specially designed for the measurement of moisture content in oil and temperature. EE385 is ideal for online monitoring of moisture in lubrication, hydraulic or insulation oil, which is very important for the long-term performance and preventive maintenance of plant and machinery.



EE385

Humidity measurement in oil
Similar to the humidity in the air, the water content in oil can be indicated by the relative value a_w:
- a_w (actual water content as fraction of the water content in saturated oil)

a_w = 0 corresponds to water-free oil, while a_w = 1 indicates saturated oil.
a_w measurement with the EE385 transmitter is based on the outstanding long term stability and resistance to pollution of the E+E capacitive sensor elements series HC.

Technical Data

Measuring values

Water activity

Measuring range	0...1a_w	
Accuracy incl. hysteresis and nonlinearity	±0.02a_w (0...0.9a_w)	±0.03a_w (0.9...1a_w)
0...60°C (32...140°F)	Traceable to intern. standards, administrated by NIST, PTB, BEV...	
Response time with stainless steel filter at 20°C / t_{90}	typ. 10min in still oil	

Temperature

Measuring range	-40...120°C (-40...248°F)
Accuracy at 20°C (68°F)	±0.2°C (±0.36°F)

Outputs

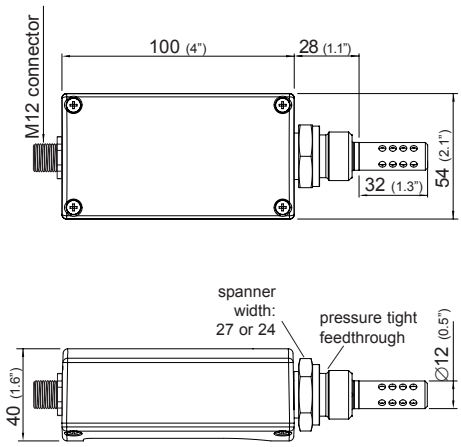
Analogue outputs for a_w and T	2 x 4 - 20mA	R_L < 500 Ohm

General

Supply voltage	15...30V DC	
Current consumption at 24V DC	typ. 80mA	
Pressure range	0...20bar (0...290psi) / 0...100bar (0...1450psi)	
Housing / Protection class	Al Si 9 Cu 3 / IP65	
Electrical connection	M12 plug connector	
Working temperature range	probe:	-40...120°C (-40...248°F)
	electronic:	-40...80°C (-40...176°F)
Storage temperature range	-40...80°C (-40...176°F)	
Electromagnetic compatibility according to	EN 61326-1 Industrial Environment	EN61326-2-3 ICES-003 ClassB FCC Part15 ClassB

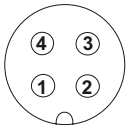
CE

Dimensions in mm



Connection Diagram

Male connector



1...V+
2...Temperature output
3...GND
4...Water activity output

Ordering Guide

									EE385-
Hardware Configuration									
Model	transmitter								T
Pressure range	up to 20bar (290psi)								E
	up to 100bar (1450psi)								I
Pressure tight	G1/2" male thread								HA03
Durchführung	1/2" NPT thread								HA07
	3/8" BSPP								HA09
Software Configuration									
Physical parameters	Temperature				T [°C / °F]		(B)		B
of outputs	Water activity				aw [ ]		(K)		K
Type of output signals	4-20mA								6
Temperature unit	°C								
	°F								E01
Scaling of T-output	-40...60	(T02)	-20...100	(T14)	-40...140	(T83)			select according to Ordering Guide (Txx)
(in°C or °F)	0...50	(T04)	0...120	(T16)	0...250	(T88)			
	0...100	T05)	0...80	(T21)	32...120	(T90)			
	-30...70	(T08)	-20...80	(T24)	32...140	(T91)			
	-20...120	(T10)	-40...160	(T33)	32...250	(T94)			other T-scaling on request
	-40...120	(T12)	-40...250	(T81)	32...132	(T96)			

Accessories

- Stainless steel filter (HA010110)

Order Example

EE385-TEHA03/BK6T02

Model:	transmitter
Pressure range:	up to 20bar (290psi)
Pressure tight feedthrough:	G1/2" male thread
Output:	temperature, water activity
Output signal:	4-20mA
Temperature unit:	°C
Scaling of T-output:	-40...60°C