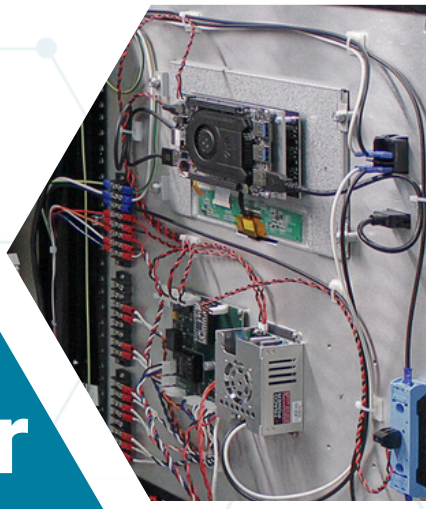
Ei4200 Dew Point Monitor

Online Detection and Measurement

Technical Specifications



Version 1

System Overview

The Ei4200 Dew Point Monitor (DPM) consists of three independent subsystems.

1. The main controller box
2. The interconnection hose/cable set
3. The measurement probe

Each subsystem has multiple unique options. It is the intent of this document to define the technical and optional specifications for each component.

System Performance

General System Specifications	
Dew point range	65 to 500 °F, (17 to 260 °C)
Dew point accuracy	+/- 2 °C

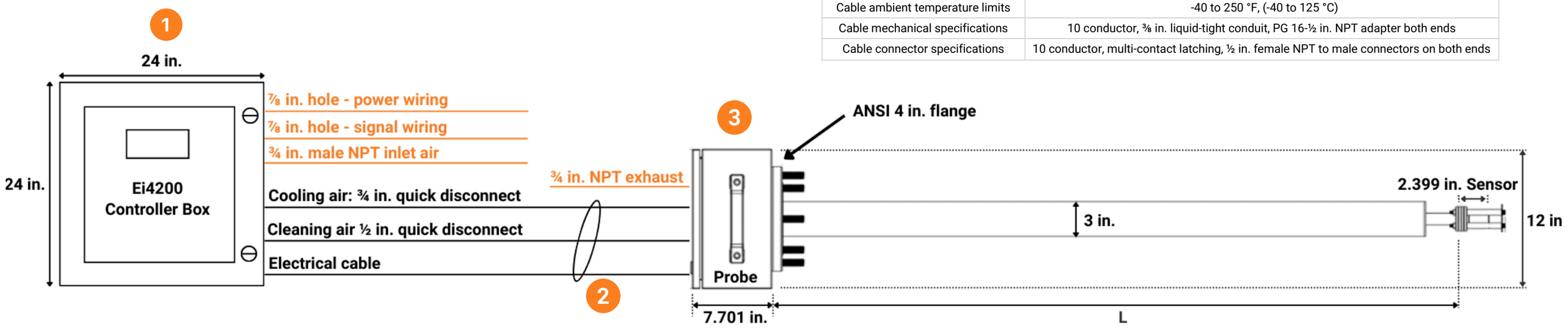
Components

Main Controller Box

Mechanical Specifications	
Cabinet	NEMA 4X, 304 SS, 24 in. x 24 in. x 8 in. Options: Solid front panel, front panel with window, portable (see accessories)
Weight	105 lb (47.63 kg)
Process air inlet connection	¾ NPT
Environmental Specifications	
Temperature limits (ambient)	-20 to 131°F (-29 to 55°C)
Electrical Specifications	
Electrical requirements	120/240 VAC 50/60 Hz, 20 Amp, 1400 Watt dedicated circuit with fuse or circuit breaker protection hardwired to control cabinet
Analog outputs	Two 4-20 mA signals
Serial output	Ethernet via Modbus TCP/IP
Alarms	Two dry contact outputs

Interconnection Hose and Cable Set

Air Hose Specifications	
Cooling air hose	¾ in. hose; ¾ in. male NPT and ¾ in. open flow quick disconnect fitting (both ends) Optional: customer-specified 25 to 50 ft. length
Cleaning air hose	½ in. hose; ½ in. male NPT and ½ in. open flow quick disconnect fitting (both ends) Optional: customer-specified 25 to 50 ft. length
Cooling/cleaning air	Instrument air, 75 to150 psi (5.2 to 10.3 bar) Required flow dependent on process temp and expected dew point, max flow 1,250 slpm
Electrical Interconnection Cable Specifications	
Cable ambient temperature limits	-40 to 250 °F, (-40 to 125 °C)
Cable mechanical specifications	10 conductor, ⅜ in. liquid-tight conduit, PG 16-½ in. NPT adapter both ends
Cable connector specifications	10 conductor, multi-contact latching, ½ in. female NPT to male connectors on both ends



Measurement Probe

Mechanical Specifications	
Probe	Process wetted materials 316 SS, Hastelloy, borosilicate glass sensor
Probe cabinet	NEMA 4X, 316 SS, 12 in. x 12 in. x 6 in.
Length	5 ft. standard; customizable 3 to 10 ft., specify “L” dimension
Sensor cell protection	Specify low particulate or high particulate (High particulate includes automatic sensor cleaning system and heavy-duty shroud)
Cooling/cleaning air	Instrument air, 75 to 150 psi (5.2 to 10.3 bar) Required flow dependent on process temp and expected dew point*
Environmental Specifications	
Max process temp	900 °F (482 °C)
Probe ambient temp limits	-20 to 149 °F (-29 to 65 °C)
Measurement Specifications	
Dew point range	50 to 700 °F (10 to 371 °C) (dependent on cooling air and process temperature)
Accuracy	Within +/- 2 °C of operating range
Temperature element type	TYPE-R thermocouple

Portable Control Cab.

Accessory Specifications

Flange Adapter Specifications	
Flange adapter	316 SS body, 15 in. overall length, Teflon ferrule between locking nuts, 3 in. ID
PLO knockout assembly	½ in. female NPT both ends, 60 CFM, particulate/moisture/oil 3 stage filtration
PLO knockout assembly	150 °F maximum ambient
Portable control cabinet	27.2 in. x 27.5 in. x 16.3 in., 90 Lb, polypropylene shell, 4x polyurethane wheels, retractable extension handle

Flange Adapter

Sensor Cleaning Sys.

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