

Mesotech offers a suite of three data collection platforms (DCPs): MicroDCP™, DCP Plus, and DCP Pro. Following are key features of these devices:

- Compact and affordable
- Flexible and highly reliable
- Supports most meteorological sensors
- Suited for portable, tactical, or permanent stations
- Broad range of communications options
- Local or remote data storage
- Easy-to-use menu-driven software
- Easily expanded or customized
- Optional solar electric generator

### Easy to Use

Our DCPs are preloaded with leading edge software, allowing for easy startup through a simple set of menus.

### Software Interfacing

Our DCPs work seamlessly with many weather reporting systems, such as CAMEO®/ALOHA®, and you

can use either Mesotech's Airport Weather Advisor® or Weather Advisor Pro™ software – or any commercial weather reporting software – to collect measurements and view weather reporting.

### Data Collection

Mesotech DCPs connect directly to analog and digital sensors without external interface components or special programming. Sensor data are sampled and logged at user-selected intervals, and data is output in your choice of units.

### Data Viewing and Distribution

In a network configuration or as a remote processor, our DCPs can interface with almost any telemetry, terminal, or display. Communication options include LAN/WAN, USB, Bluetooth, satellite, cellular, radio telemetry, fiber optic, and telephone modem. Data can be stored locally or transmitted real-time to a weather reporting system.



*Data Collection Platforms with Plug & Measure™ simplicity*

### Power Supply Options

The MicroDCP and DCP Plus are designed for low current draw from unregulated power sources such as battery, solar or AC generator, or AC/DC power supply. The DCP Pro requires an AC power supply.

### Harsh Environment Reliability

Each Mesotech DCP is a completely self-contained data collector and processor for all types of weather stations. Designed for exposed and severe outdoor weather conditions, all components are contained in a rugged weatherproof enclosure with sealed cable glands, conduit, or circular MIL connectors.

### Custom Systems

Mesotech can design a weather station or network of stations to meet your specific requirements. With over 20 years experience

Features	MicroDCP™	DCP Plus	DCP Pro
<b>Meteorological Sensors</b>	13	16	18
<b>Power</b>	DC (battery) or AC		AC
<b>Enclosure</b>	Fiberglass or Aluminum	Fiberglass, Aluminum, or Stainless Steel	Fiberglass or Stainless Steel
<b>Connectors</b>	Circular or Cable Glands	Conduit, Cable Gland, or Military Connectors	
<b>Host Communications</b>	Wire line modem, RF modem, or fiber optic modem		
<b>Local Communications</b>	RS-232, RS-422, RS-485		
<b>Application</b>	Weather Advisor Pro™ or AWA®		AWA®



deploying large-scale instrumentation projects in the weather measurement business, our engineers can help you design, develop, and deliver a cost-effective solution for any application. In delivering these services, our personnel perform with a thoroughness, professionalism, and integrity few companies can match.

## Systems and Applications

Examples of systems using Mesotech data acquisition devices:

- AWOS-certified Airports
- Agriculture/Ag Research
- Defense and Military
- ETo Weather Monitoring
- HazMat and First Responder
- Meteorology
- Plume Dispersion
- SCADA
- Soil Water Content
- Storm Water Monitoring
- Transportation
- Utilities and Energy Planning
- Water Level and Flow Monitoring

## Technical Specifications

### Analog Inputs

Number of channels:	11 voltage inputs, five current inputs with 250 ohm internal shunt resistor, three inputs for RTD or thermistor transducers
Input ranges:	100 mV, 1.0 V, 2.0 V, 5.0 V
Accuracy:	0.02% FS, 5 V range (-40 to 85 °C) 0.1% FS for current measurements
Sample rate:	10 kHz maximum
Input noise threshold:	37 nV/Hz
Common mode rejection:	>140 dB
Input current:	1 fA
Input resistance:	>10 teraohms

### Voltage Outputs

Analog signal outputs:	Eight channels optional, 0 to 5 V continuous, 12-bit resolution, 0.1% accuracy
Excitation voltages:	Five switched and continuous, independently controlled
Excitation power:	5 V @ 50 mA, 0.1% accuracy 5 V @ 1A max, 12 V @ 1A max

### Digital Inputs/Outputs

Frequency inputs:	Three counters, 16-bit, each independent of processor
Maximum count rate:	1.4 KHz
Input modes:	High speed inputs for sine wave, square wave, or contact closure
Digital I/O port:	Eight binary inputs – control outputs optional
Alarm outputs:	Two open collector @ 2 A max. for high or low threshold events

### Serial Channels

RS-232E ports:	Two ports std, four or up to 12 ports optional. Hardware and software handshaking, baud rates 110 bps to 115 Kbps, various protocols
Maintenance port:	RS-232 with external weatherproof connector for real-time data access and off-loading data memory
RS-485 port:	One port with multi-drop capability, includes impedance termination

### Processor Functions

Configuration parameters:	Stored in non-volatile EEPROM
Data memory:	128 KB internal SRAM with battery backup std, up to 1 MB optional, 128 KB internal Flash PROM std, up to 1 MB optional
Calendar clock:	Date, time, leap year, two time of day alarms, accuracy +30 sec/month Synchronized with time source
Backup battery:	For memory and clock, 10-year life
Local display:	Hand held display unit

### Power Requirements

Input voltage:	+7 to 40 VDC
Operating current:	<55 mA @ 12 VDC
Standby current:	<0.5 mA @ 12 VDC
Input protection:	Dual fuse surge protection, reverse polarity, and over-voltage
Supply sources:	Battery, solar power, unregulated DC, and regulated DC, AC

### Environmental Characteristics

Operating temperature:	-50°C to 85°C (MIL-STD-801D, 501.2 & 502.2)
Humidity:	0 to 100 %RH (MIL-STD-801D, 507.2)
Vibration:	10 – 500 Hz, to 2 G (IEC-68-2-6)
Waterproofing:	NEMA4X (IP66)
Salt-fog withstand:	MIL-STD-810D, 509.3
EMI and ESD protection:	MIL-STD461, IEC 801

### Construction

Circuit boards:	Surface mounted components, internal power and ground planes, and built-in EMI and ESD protection
Lightning protection:	Minimum three stages of protection devices on all signal and power lines. Includes spark gaps, MOVs, transzorb, and tuned impedance.
Weatherproof enclosure:	NEMA4X (IP66) weatherproof rated
Connections:	Up to 11 connections, options include: <ul style="list-style-type: none"> <li>• Cable glands (SS)</li> <li>• MIL circular connectors</li> <li>• Internal screw terminals</li> <li>• Circular connector for local RS-232 port</li> <li>• Bolt for lightning grounding cable</li> </ul>
Dimensions:	7" x 5" x 2.5" (18 mm x 14 mm x 7 mm)
Weight:	3.5 lbs (1.7 kg)

