DATA SHEET

# SensorNet/Manchester Distribution Panel


## Features That Make a Difference:

- Amplifies SensorNet or Manchester protocol signals for multi-point dome control
- Switch easily between SensorNet or Manchester protocols
- Accommodates home-run dome wiring via 16 output ports
- Supports home-run, daisy chain, and junction box (J-Box) wiring topologies to accommodate any size system
- Install at head end or remote locations
- Rack (2U) mountable
- Thin, single PCB design allows the panel to be mounted either at the front or rear of an electronics rack, facing in or out
- Surge suppression available on all data and power connections
- ADACSNETDP model includes power supply for multiple panels
- Compatible with American Dynamics® MegaPower matrix switcher/ controller systems and Intellex® Digital Video Management Systems

The SensorNet/Manchester distribution panel amplifies either a SensorNet or Manchester protocol signal for multi-point dome control which provides the flexibility to operate efficiently in either protocol setting. With 16 output driver links (two connectors per link), the panel can accommodate home-run dome wiring, multiple daisy-chained links to domes, or J-Boxes.

The panel also includes inputs for two hosts allowing you to maintain a connection between both the primary and backup CPUs and the devices connected to the panel, thereby providing a redundant solution1. For the ultimate control, you can monitor signal activities on each channel.

Installing the panel is easy, either at the head end or at remote locations and it can be used in place of a SensorNet J-Box when power is available for domes locally. The sleek, 2U design can easily be mounted at the front or rear of an electronics rack, facing in or out.

The panel is compatible with all versions of American Dynamics SpeedDome programmable dome cameras, Manchester receiver drivers, J-Boxes, and control systems that use SensorNet or Manchester protocols.

AMERICAN DYNAMICS

# SPECIFICATIONS

## Model Numbers

ADACSNETD . . . . . .SensorNet/Manchester Distribution Panel (without external power module)
ADACSNETDP . . . . . .SensorNet/Manchester Distribution Panel (with external power module)

## Physical

Dimensions (L x W x D). . . . . .481 x 87 x 34 mm (18.9 x 3.4 x 1.3 in)
Body Length. . . . . .445 mm (17.6 in)
Weight . . . . . .0.75 kg (1.66 lbs)
Mounting . . . . . .Standard electrical rack (2U), EIA-310-D (19 in) IEC 60297-1 (482.6 mm) Wall mount

## Electrical

Power Source. . . . . .External power module
Certified limited power source required
Multiple panels may be connected up to the maximum VA rating of the transformer
Input. . . . . .12 to 30 V DC or AC
Isolation not required
NEC Class 2
Power Consumption. . . . . .8 VA
Diagnostic Indicators
Power On/Heartbeat . . . . . .Green LED
Noise Detect. . . . . .Red LED
Host A and B Receive Data . .Yellow LED
Channels 1-16 Receive Data .Yellow LED
Protection. . . . . .Internal primary current fuse
Inrush limiting
DC isolation
Cable to Transformer . . . . . .5 m (16.5 ft)
18 AWG (0.823 mm$^2$), 3-conductor
Input Connector . . . . . .Euro-style 3-pin removable plug
5.06 mm (0.2 in) terminal block
Surge Protection
Transient Voltage Suppressors (TVS) . . . . . .60 V, 250 A, 1.5 J
Gas discharge tube impulse rated . . . . . .10 kA
Design Tolerance
Input Voltage Minimum . . . . . .11 V DC or AC without drop out
Input Voltage Maximum. . . . . .>36 V DC or AC
Input Frequency . . . . . .47 to 63 Hz
Allowable Dropout . . . . . .150 ms

## Surge Protection

**SensorNet/Manchester Ports**

Transient Voltage Suppressors (TVS)
Breakdown Voltage . . . . . .7.6 to 9.3 V DC
Peak Current . . . . . .40 A
Capacitance. . . . . .2000 pf at 1 kHz
Gas Discharge Tube Impulse Rate
DC Breakdown Voltage . . . . .90 V DC
Insulation Resistance . . . . . .10,000 mΩ
Capacitance. . . . . .2 pf max
8/20 µsec Impulse Discharge Current. . . . . .10 kA
Ten 8/20 µsec Impulses
Discharge Current . . . . . .5 kA
Isolation Transformer
Coupled . . . . . .2000 Vrms
PTC re-settled fuse protects transformer

## Environmental

Operating Temperature. . . . . .-10° to 50°C (14° to 122°F)
Storage Temperature . . . . . .-40° to 70°C (-40° to 158°F)
Relative Humidity . . . . . .0 to 95% noncondensing

## Regulatory

EMC. . . . . .47 CFR, Part 15
EN50130-4; EN55022
EN61000-3-2; EN61000-3-3
CISPR22
Safety. . . . . .UL/IEC/EN/CSA C22.2.60950-1
Environmental. . . . . .RoHS 2002/95/EC
WEEE 2002/96/EC
IP code X0

## DATA COMMUNICATION

| | SensorNet | Manchester |
|---|---|---|
| **Address Range** | 1 to 254 | 1 to 64 |
| **Bit Rate** | 230.4 kbps | 31 kbps |
| **Maximum Cable Segment**[3] | 1 km (3,300 ft) if repeaters are used<br>1.5 km (5,000 ft) if repeaters are not used | 1.5 km (5,000 ft) |
| **Maximum Loads** | 32 devices per cable segment | 3 per run |
| **Cable Segment Repeaters** | SensorNet J-Boxes, distribution panels | Distribution panels |
| **Topologies** | Daisy chain, backbone, or star | Daisy chain |
| **Transmission Medium** | Single non-polarized unshielded twisted pair UTP 22 AWG (0.326 mm$^2$) | Single twisted pair 18 AWG (0.823 mm$^2$) (Belden 8760), polarized, Shielded |
| **Connector** | Euro-style 3-pin removable plug 3.5 mm (0.14 in) terminal block, Shield not used | Euro-style 3-pin removable plug 3.5 mm (0.14 in) terminal block |
| **Connector PIN Assignments** | PIN 1 - S+ (orange wire) PIN 2 - S - (yellow wire)<br>PIN 3 - Ground (Shield not used) | PIN 1 - S+ (black wire) PIN 2 - S- (white wire)<br>PIN 3 - Ground (Shield used) |
| **Terminating Resistor** | 120 Ω, switch selectable | 120 Ω, switch selectable |
| **Physical Layer** | RS-485, transformer-isolated, 2-wire | RS-485, transformer-isolated, 2-wire |
| **Link Layer Communications** | Bi-directional, half duplex | Simplex |
| **Controller Devices** | ADMPCPU, ADTT16E Primary Touch Tracker, MegaPower 48 Plus, MegaPower LT, Intellex Digital Video Management System, and ADACSNET SensorNet USB Module | ADMPCPU, AD2091, MegaPower 48 Plus, and MegaPower 3200 |
| **Secondary Devices** | SpeedDome Series and American Dynamics receivers/drivers, distribution panels, J-Boxes, secondary Touch Tracker, and SensorNet I/O unit | SpeedDome Programmable Dome Cameras |

(2) Input voltage greater than 36 VDC or AC may damage equipment
(3) The maximum cable segment distance shown is the total distance per ADACSNETD driver. The panel contains 16 drivers labeled 1 through 16 and each driver has two physical connectors on the front panel. If only one of the two connectors is used, the full distance can be applied to that connector. If both of the connectors are being used, the combined distance should not exceed the amount shown based upon wiring specified above.

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