



AANDERAA INSTRUMENTS

DATA COLLECTING INSTRUMENTS FOR LAND SEA AND AIR



COMPUTING UNIT 3346 with analog output

The unit converts PDC-4 raw data to engineering units, which are displayed and presented as analog outputs scaled to range for use with Programmable Logic Controllers (PLCs).

Data from Automatic Weather Stations and similar data collecting equipment from Aanderaa Instruments are very often used in industry for control and surveillance purposes. However, the standard output signals, PDC-4, from this equipment cannot be connected directly to industrial PLCs as they require 0-5VDC or 4-20mA input signals.

To meet this demand the Computing Unit 3346 has been designed to convert the incoming PDC-4 signals to analog outputs, linearized and scaled to range. A second function is to display these data on an LCD in engineering units and to supply output signals in RS-232C coded format. This feature makes the unit suitable for real-time display of data from submerged instruments such as the Recording Current Meter, RCM 9 Mk II.

The unit's rugged and weatherproof design makes it well suited for a variety of applications. All electrical components are encapsulated in a polyurethane block and housed in a case of hard anodized aluminum.

Embedded in the front is a 4x40 character liquid crystal display and two control switches, the Mode Selector switch and the Channel Selector switch.

The electrical connections are conveniently placed and the

unit is prepared for wall mounting. Before use, the unit must be programmed for a specific station (see programming procedure overleaf). The station's reference number and number of channels in operation must coincide with the programmed reference number and channels.

When a new data set arrives, the first channel is checked for the correct reference number. If it coincides with the programmed reference number (± 2), the message is accepted and the PDC-4 and the RS 232 signals are routed to their output receptacles.

After the entire message has been converted and checked for correct format, the analog values are set and applied to the output receptacles. The output signals are present until updated by the next data set. Up to eight parameters can be converted and displayed in engineering units.

A normal programmed unit called the A version can handle up to 8 sensor channels. A special programmed B version, connected in parallel with an A version will handle further 8 channels, i.e. channel 10 to 17. See illustration on page 3.

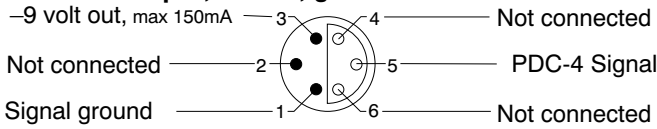
The actual programming is done with a pad supplied with each unit. The unit must be powered from an external 12-volt power source. An AC/DC Adapter is supplied with the

SPECIFICATIONS FOR COMPUTING UNIT 3346

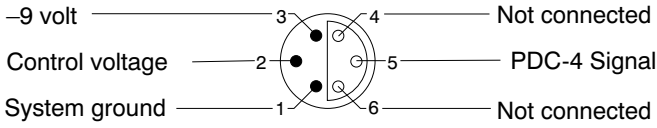
PIN CONFIGURATION

Receptacle, exterior view; bushing = ○; pin = ●

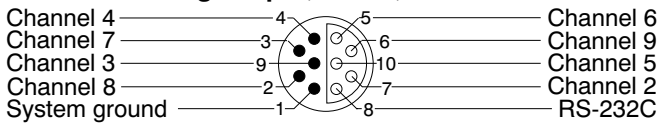
Input, PDC-4, galvanic isolated



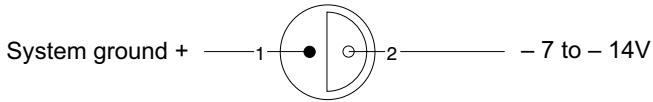
Output, PDC-4



Analog Output, 0 – 5V, 4 – 20 mA



7 – 14V DC

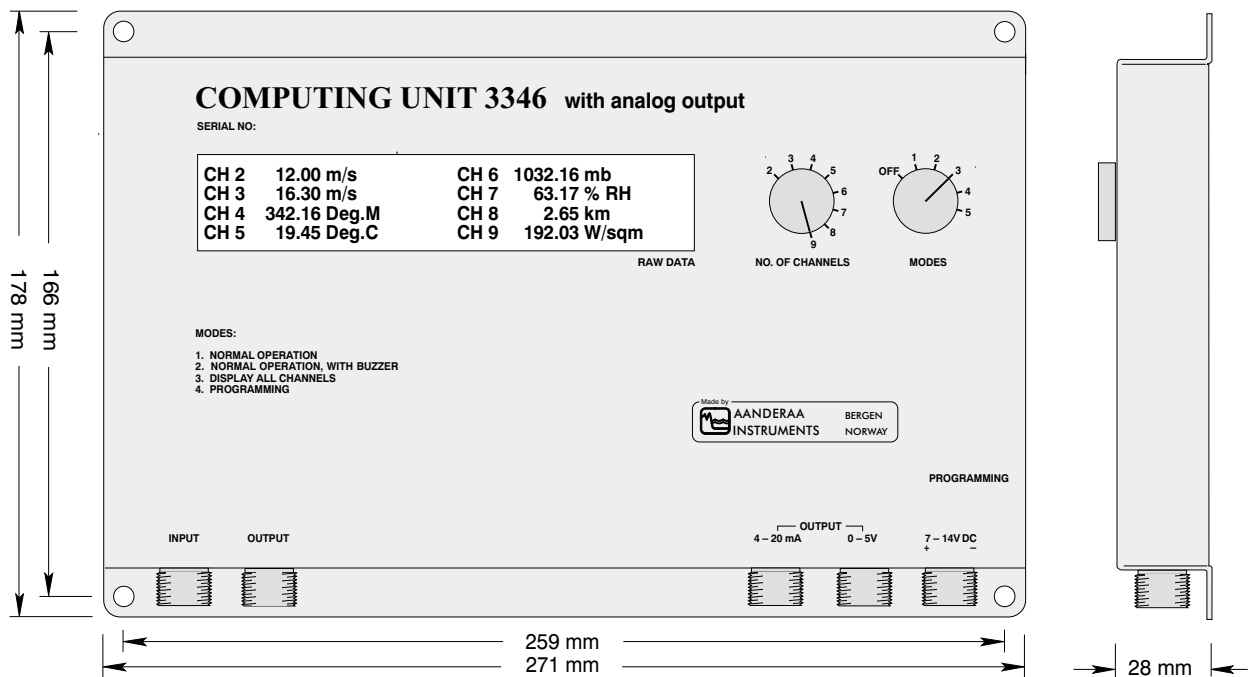


- Number of Channels:** 1 reference, 8 sensor channels
- Input Signals:** PDC-4
- Resolution:** 10 bits binary
- Display:** Alphanumeric 4 x 40 character LCD
- Output (analog):** 4 – 20 mA, load less than 500Ω.
(Linearized, scaled to range) 0 – 5VDC, load greater than 10KΩ
Galvanic isolated from PDC-4 input, but not from power input
- Output (digital):** RS-232C, ASCII coded data
1200 baud, 8 data bit, 1 stop bit, no parity. PDC-4 raw data
- Supply Voltage:** 7 – 14V DC
- Current Consumption:** 200 – 500 mA. Depending on the load on 4-20mA output receptacle
- Operating Temperature:** –40 to +60°C
- Degree of Protection:** IP68
- Cables: Optional** Cable 2842, PDC-4 input/output
Cable 3376, RS 232C output
- Materials and Finish:** Hard anodized aluminum
- Weight:** 1.2 kg
- Packing:** Cardboard box
- Accessories (included):** Cable 3485, 10m
Programming Pad 3262
(optional): AC/DC Adapter 3786,
100-260AC, 12V DC, 3 Amp
- Warranty:** Two years against faulty materials and workmanship

RS 232 String: 02 Air Temperature 23.40 Deg. C.

03 Air Pressure 1023.12 mb

Protocol: <LF>Channel No<2char><Space>Par. name<15char>Space<Reading<4char><point>
Desimal<2char><Space>Unit<5char><CR><LF>



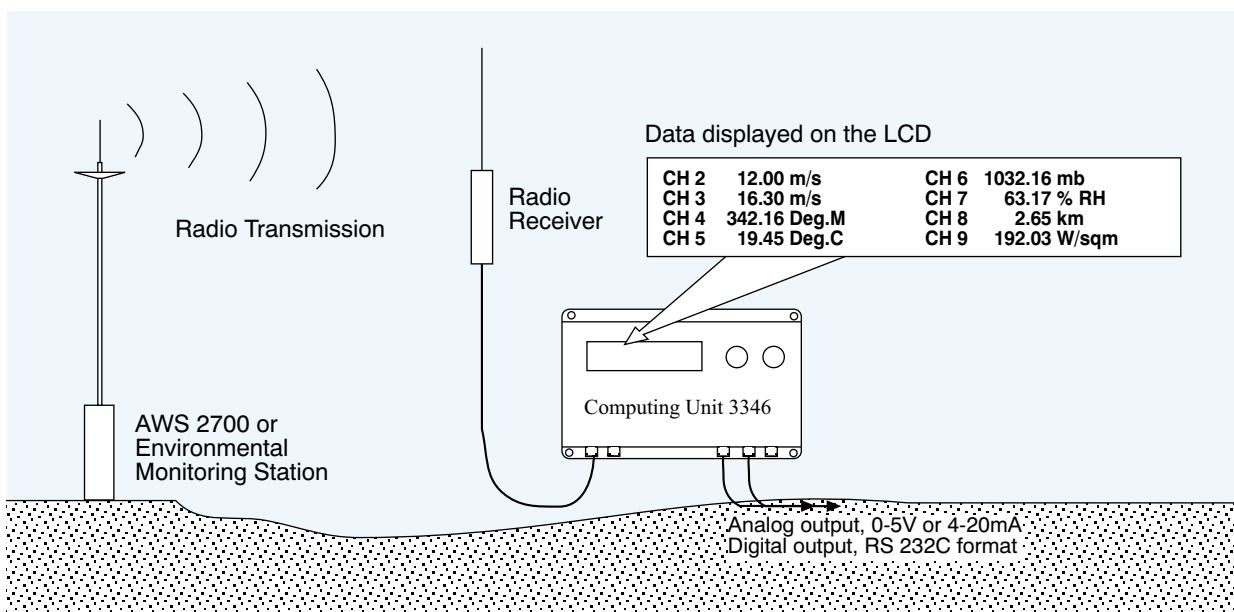
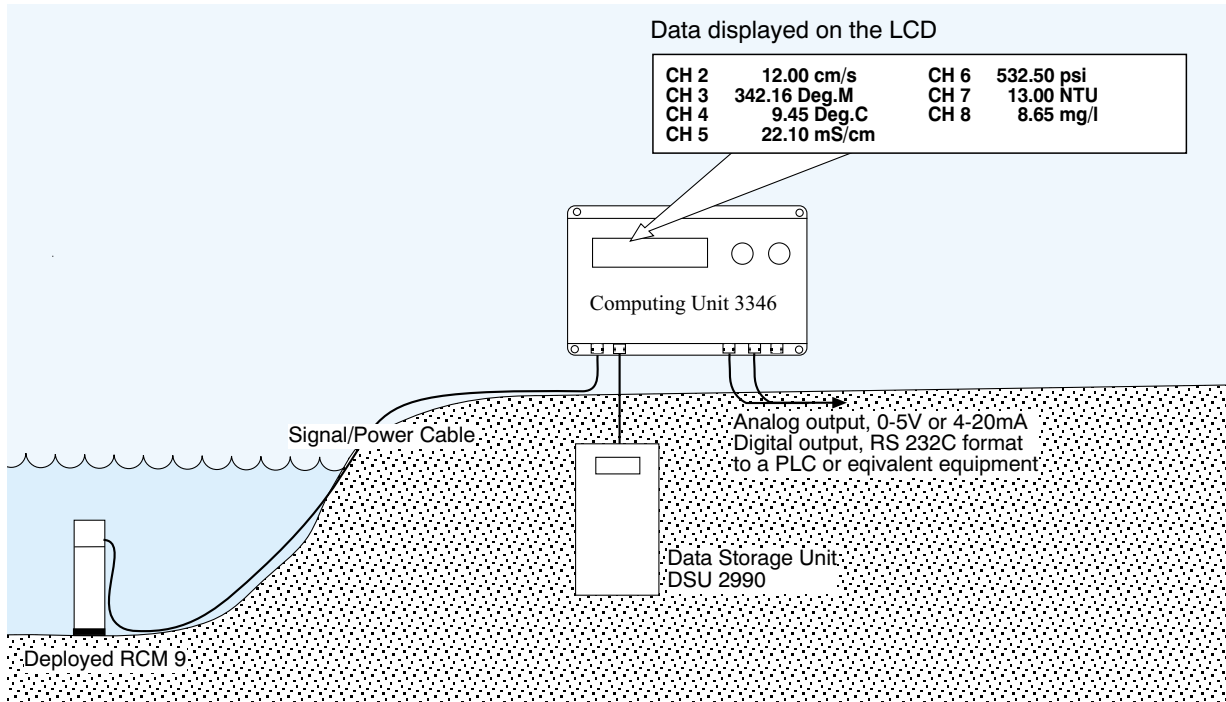
APPLICATIONS

The computing Unit 3346 is especially suited for real-time display of data in engineering units from instruments with up to 8 parameters. All the sensor readings in a measuring cycle can be displayed on the LCD and stays on the display until updated by the next dataset.

The illustrations below show two typical applications.

The first illustration shows the 3346 unit connected to a recording current meter, RCM 9 Mk II.

The second illustration shows how data from an environmental monitoring station are transmitted by radio to the 3346's location and displayed in real-time.



OPERATING/ PROGRAMMING THE COMPUTING UNIT 3346

OPERATING/PROGRAMMING PROCEDURE

1. Connect Programming Pad to the unit and apply power.
 2. Turn Mode Switch to position 5 and insert reference number (for the incoming data set) using the pad buttons: POS, which moves the cursor, CHAR, which selects letters and figures, and SHIFT, which selects capital and small letters.
 3. Set Mode Switch to position 4.
 4. Turn the Channel Selector to position 2 and enter parameter, name, unit and coefficients for the sensor in channel 2.
 5. Set the Channel Selector to the other channels subsequently and repeat procedure for all the sensors.
 6. Leave the Channel Selector in the last position and turn Mode Switch to position 1, 2 or 3.
 - Pos. 1 shows incoming data channel-by-channel in engineering units.
 - Pos. 2 shows incoming data channel-by-channel in raw data with a buzzer denoting every bit.
 - Pos. 3 shows all channels in engineering units on the same screen.
- Between incoming datasets the unit will, in pos.1 and 2, show the time since last data set was received .
The unit is now in "stand-by" mode and is ready to receive and convert an incoming data set, which is identified by the inserted reference number.

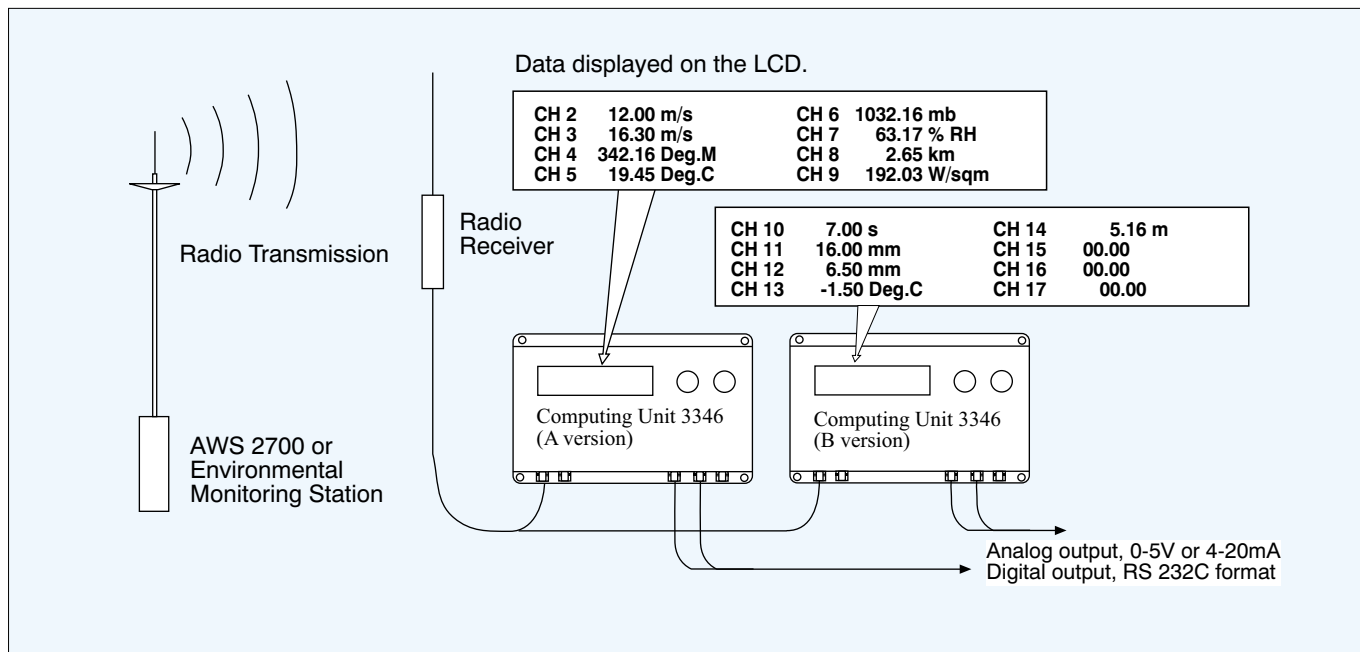
Converting data from an AWS 2700 or an Environmental Monitoring Station, EMS with more than eight sensors.

The illustration below shows how to convert data from a station with 14 parameters using two 3346 units.

The Computing Unit receiving the first 9 channels is a

standard 3346 unit, called an A version.

The second unit is a special programmed unit called the B version.



Representative's Stamp

Latest version is on the Internet

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