



HYDROGEN DETECTION, LEAK LOCATION AND ANALYSER SOLUTIONS

CONTROL & DISPLAY UNITS: CDU SERIES

MODEL: CDU-4CH-V-G-11-14100102205010

APPLICATION: HYDROGEN SAFETY AREA MONITORING IN POWER GENERATION PLANTS



Widest Range of Parametric Selection Available For

Operating Range | Resolution | Sensitivity | Response Time | Sensor Size | Sensor Output | Enclosure Type
Hazardous & Non-Hazardous Area Compliant | Ingress Protection IP 65 to IP 68 | Process Analysis

Bespoke Customized Solution Development

Our high-class R&D Lab and Calibration + Repair facility can cater to most challenging requirements

Manufactured By: Multi Nano Sense Technologies Private Limited

RO: RH 14, Swapnil Enclave, Amravati Road, Kachimet, Nagpur, India - 440023

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General Description

CDU-4CH-V-G-11-14100102205010 is a Control & Display Unit ('CDU') with the configuration to receive and process inputs from up-to 4 Hydrogen Detectors simultaneously. The CDU operates in a scanning mode for 24x7 monitoring of all connected Hydrogen Detectors. It is powered by standard 230V AC mains power supply and delivers power to the connected Hydrogen Leak Detectors, negating the requirement for separate power supply source for each Hydrogen Detector. The LED screen displays the channel number and the concentration of the Hydrogen detected by the respective sensor, cycling from channel 1 to channel 4, with a User settable cycling rate. The CDU also has visual LED alarm indication for HI and HIHI level, which can be set by the User. The product comes with a time-stamped internal storage for logging historical data, which can be very useful for root cause analysis, post-event evaluations and logging experimental data. This data can be downloaded on to a computer using MNST's proprietary software.

For automation, the CDU is equipped with two sets of NO/ NC voltage free contacts which are configured to be triggered, if the User defined HI and HIHI alarm thresholds (one set for HI and HIHI respectively) are crossed. These relays can be used to configure automated systems for condition monitoring, anomaly reporting, and triggering response actions like controlling the ventilation systems, cutting off process power supply, actuating hooters, and other actions.

Application Description

CDU-4CH-V-G-11-14100102205010 is used for remote area monitoring in power generation plants to protect the plant from Hydrogen explosions by continuously monitoring the concentration of Hydrogen and raising alarms if Hydrogen concentration crosses the user defined thresholds. The CDU is designed to solve the problem where a User does not have an integrated SCADA/ PLC/ DCS system or wants to have a local display and control mechanism at a remote location for automating monitoring and response processes. The CDU must be installed in a Non-Hazardous Area.

The CDU comes pre-loaded with local calibration software, which enables the Users to perform electronic, as well as gas calibration, at the site, using **MNST's Calibration Kit**. The software also allows the User to set alarm thresholds at desired values, skip the unconnected channels during scan mode, define the scanning rate, and initiate data transfer of the logged information.



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Technical Specifications

CONTROL & DISPLAY UNIT - CDU-4CH-V-G-11-14100102205010		
Sr. No.	Parameters	Description
1	Type	Micro-controller based, 8-channel control & display unit for indoor and outdoor applications, with display, visual alarm indications, 2 sets of NO/NC voltage free relays and internal memory for data logging.
2	Input Power Supply	230V AC mains. The instrument does not contain a battery. It must be continuously powered during operation. Please refer other models in the CDU series if battery back-up is required.
3	Output Power to Hydrogen Detectors	12V or 24V, as required.
4	Range	Percentage Range - X.XX% Example: 0.00% to 5.00% H ₂ v/v in Air.
5	Resolution	0.01% or 100 ppm over the entire range.
6	Voltage Free Relay Contacts	2 sets of common voltage free relay contacts (back panel). NO/NC for two selected HI and HIHI thresholds. The Users may modify the set thresholds using on-board software.
7	Display	Percentage Range: 3-digit concentration display in X.XX% format PPM Range: 4-digit concentration display in XXXX PPM format Visual Alarms: Channel wise LED indicators (1-4) x 2 x 4, for HI and HIHI threshold crossing indication.
8	Scanning Mode	The CDU comes with an auto-scan feature for cycling the concentration readout among the channels. The scan rate is User settable between 1 to 30 seconds.
9	Alarm Setting	The Alarm/ Relays thresholds for HI and HIHI are independently settable for each channel. The alarm thresholds are User settable. While setting the thresholds, following logic condition must be satisfied: HI < HIHI
10	Alarm Auto-Reset	The Alarm/ Relays are automatically reset as soon as the Hydrogen concentration falls below the defined threshold. This feature is designed such that Users are immediately informed about the efficacy of the response procedures undertaken after being alerted.
11	Accuracy	±5% of displayed concentration.
12	Mounting	The CDU must be mounted/ installed in a Non-Hazardous/ Safe Area within 75 meters from the Hydrogen Detectors. The CDU can be installed on a table-top or mounted in a panel or on a wall.
13	Recommended Cable	4-Core shielded cable for signal integrity and reliable transmission.
14	Connectors	4-Pin round connector (female) for integration with Hydrogen Detectors.
15	Standard Warranty	The goods shall be warranted against issues arising out of manufacturing and workmanship defects for a period of 12 months from date of acceptance of goods at site or 18 months from the date of invoice. It shall not cover physical damage, or any improper functioning caused due to User's negligence or such use in contravention of the guidelines described in the User's Manual supplied along with the product. Warranty does not cover calibration or AMC of CDU. Our warranty certificate covers all terms and conditions.
16	Extended Warranty	Similar coverage as Standard Warranty. Can be purchased as an add-on for 2/3/4 years in addition to standard warranty.

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MULTI NANO SENSE TECHNOLOGIES PVT LTD
CONTROL & DISPLAY UNIT
MODEL: CDU-4CH-V-G-11-14100102205010

Key Advantages of CDU Series

- **Robust Enclosure:** The sensor is housed in a rugged enclosure to survive in harsh environments.
- **Fastest response time:** Instantaneous response of the electronics processing systems.
- **No damage on over-exposure:** Even if sensor is momentarily exposed to 100% pure Hydrogen.
- **No Cross Sensitivity:** Other combustible and reducing gases do not interfere with sensor functioning.
- **No False Alarms:** Highly reliable operation due to selective sensing of Hydrogen alone.
- **Very Fast Recovery:** Immediate feedback of Hydrogen concentration reduction due to response action.
- **High Precision Electronics:** The electronics can process very low signals, reliably, over the entire lifetime.
- **High Resolution:** Intricate and high precision electronics ensure 1 ppm/ 10 ppm/ 100 ppm resolution over entire range, depending upon the range and model selected by the User
- **Long Life:** Capex cost is spread over 4-5 years.
- **User Friendly Calibration & Comprehensive AMC Option:** Low cost and low hassle after-sales service.
- **End to End Support:** Remote as well as on-site support. Deep evaluation studies in R&D facility.
- **Expert Consultancy:** Our seasoned engineers can guide you for ideal product selection from our vast range of options to suit your requirements.

Contact Us

Do not hesitate to give us a call or write to us for detailed discussion, enquiries, assistance, feedback, or suggestions. Our team will be glad to help you out.

Single Point of Contact

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Do visit our website for more information and upcoming technologies -----> www.multinanosense.com

Thank You for showing interest in our products and services!

Technical specifications are subject to change without prior notice, due to continuous R&D and development of Company's Products.

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