COURSE OVERVIEW IE0714(KJ1)
Fieldbus/HART Communication and Device Calibration (Rosemount)

Course Title
Fieldbus/HART Communication and Device Calibration (Rosemount)

Course Reference
IE0714(KJ1)

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	April 20-24, 2025	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
2	June 15-19, 2025	Oryx Meeting Room, Double Tree by Hilton Al Saad, Doha, Qatar
3	September 08-12, 2025	Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
4	December 07-11, 2025	Al Khobar Meeting Room, Hilton Garden Inn, Al Khobar, KSA

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and an up-to-date overview of fieldbus or hart communication and device calibration. It covers the basic building blocks and design criteria for the field level, low speed and the high speed ethernet network level implementations. It will provide an overview of the fieldbus technology including how it differs from traditional control systems.

The course provides a clear and concise presentation of how to apply FieldBuses for process control. Based on experience collected from end-users in a wide range of industries around the world, the course will provide "how-to" information for all phases of the system lifecycle from engineering to device and strategy configuration, installation, commissioning, troubleshooting, operation, and maintenance.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain a comprehensive knowledge on fieldbus/HART communication and device calibration (Rosemount)
- Discuss HART and fieldbus communication for smart instrumentation
- Install, configure, calibrate and troubleshoot Rosemount Smart (Fieldbus/HART) devices including pressure transmitter, temperature transmitter and radar level transmitters
- Obtain hands-on training skills on 475 Hart/Fieldbus field communicator
- Install, configure and calibrate the DP flow instruments correctly
- Perform DP flow troubleshooting

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials, sample video clips of the instructor's actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of Fieldbus/HART communication and device calibration for instrument engineers and technicians.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

Dubai	**US$ 5,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Al Khobar	**US$ 5,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Abu Dhabi	**US$ 5,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Doha	**US$ 6,000** per Delegate. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Course Accreditation

Certificates are accredited by the following international accreditation organizations: -

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Steve Mark, PE, MSc (on-going), BSc, is a **Senior Electrical & Telecommunications Engineer** with over **20 years** of extensive experience within the **Oil & Gas**, **Petrochemical** and **Power** industries specializing in **Overhead Power Line Maintenance Patrolling & Washing**, **Energy Transmission & Distribution**, **Transmission Line** Structures, **Insulators & Accessories**, **Transmission Line Construction & Maintenance**, **Insulated Power Cables**, **High Voltage Applications**, **Transmission Line Parameters**, **Sag & Tension of Conductor**, **Geomagnetic Disturbances**, **Reactive Power Compensation**, **Overhead Line Troubleshooting**, **Patrolling**, **Troubleshooting Safety**, **HV/LV Equipment**, **High Voltage Electrical Safety**, **LV & HV Electrical System**, **HV Equipments Inspection & Maintenance**, **HV Switchgear Operation & Maintenance**, **LV Distribution Switchgear & Equipment**, Basic **Electricity**, **Electrical & Special Hazards**, **Personnel Protection**, **Motor Controllers**, **Electrical Switching Practices**, **Emergency Planning**, **Safety Management**, **Earthing & Bonding Installation**, **Energized & De-Energized Work**, **Protection Relays**, **Testing & Commissioning**, **Lock & Tag Out**, **Circuit Breakers & Switchgears**, Portable **Cables**, **Transformers**, **Surge Arrestors**, **Isolators & Fuses**, **Capacitor Banks**, Earth & Shunt Reactors, Gas Insulated Substations (**GIS**), **HV Substation Inspection & Reporting**, **HV Cable Design**, **HV Electrical System Commissioning**, **HV Equipments Inspection & Maintenance**, **UPS & Generators**, Electrical Installations Design & Construction, **Electrical Mechanical Installations**, **GIS Substations**, **GE Turbine Power Plant** and **Steam Power Plants**. Further, he is also well-versed in **Network & System Administration**, Data/Voice Networking, Network Capacity Calculations, VPN Connection Implementation, Structured Cabling Constructions, Engineering Design, Security Installations Design & Implementation, Logistics Management, IT Analysis, Business Continuity Plan Design, Disaster Recovery Simulations, Supply Chain System Design, Barcode Marking & RFID Applications. He is currently the **Lead Electrical Engineer** of Public Power Corporation S.A wherein he is responsible for site manufacturing supervision of works and electrical maintenance support for the existing Steam Electrical Power Plant.

During his career life, Mr. Mark has gained his expertise and thorough practical experience through handling challenging positions such as being the **IT & Telecommunications Manager**, **IT & Organization Manager**, **Logistics Manager**, **Electrical Engineer**, **Safety Engineer**, **Public Works Contractor**, **IT Support Analyst**, **Project Supervisor**, **Systems & Network Administrator**, **Data Protection Officer**, Shop Auditor and Amateur Radio Operator for various multi-national companies and institutes.

Mr. Mark is a **Registered Professional Engineer**, has a Bachelor degree in **Electrical Engineering** from the **Technical University of Halkida**, **Euboea**, **Greece** and currently enrolled for **Master** degree in **Quality Management** from the **Hellenic Open University**. Further, he is a **Certified Instructor/Trainer**, a **Certified Safety Engineer** and a **Certified Data Protection Officer** (**DPO**). Moreover, he is a member of Scientific Society of Technological Education of Engineers (EETEM) and has delivered numerous trainings, courses, seminars, workshops and conferences internationally.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome and Introduction*
0815 – 0830	***PRE-TEST***
0830 – 1000	***What is the New Advantages of Smart Transmitters?***
1000 – 1015	*Break*
1015 – 1130	***What is the New Advantages of Smart Transmitters? (cont'd)***
1130 – 1200	***HART Overview***
1200 – 1215	*Break*
1215 – 1420	***Foundation of Fieldbus Overview***
1420 - 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Control Loop Wiring Practices***
0930 – 0945	*Break*
0945 – 1100	***Control Loop Wiring Practices (cont'd)***
1100 – 1215	***Fieldbus Wiring/Segment Deign Function Blocks***
1215 – 1230	*Break*
1230 – 1420	***Fieldbus Wiring/Segment Deign Function Blocks (cont'd)***
1420 - 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***475 Field Communicator, Configuration and Calibration***
0930 – 0945	*Break*
0945 – 1100	***475 Field Communicator, Configuration and Calibration (cont'd)***
1100 – 1215	***AMD Device Manager Operation***
1215 – 1230	*Break*
1230 – 1420	***AMD Device Manager Operation (cont'd)***
1420 - 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Theory of Operation, Installation, Configuration Troubleshooting of the Following Rosemount Devices*** *3051 C & 3051S Pressure Transmitters • 3144 & 644 Temperature Transmitters*
0930 – 0945	*Break*
0945 – 1100	***Theory of Operation, Installation, Configuration Troubleshooting of the Following Rosemount Devices (cont'd)*** *GWR Level Transmitters*
1100 – 1215	***Basic DP Flow Fundamentals***
1215 – 1230	*Break*
1230 – 1420	***Basic DP Flow Fundamentals (cont'd)***
1420 - 1430	***Recap***
1430	*Lunch & End of Day Four*

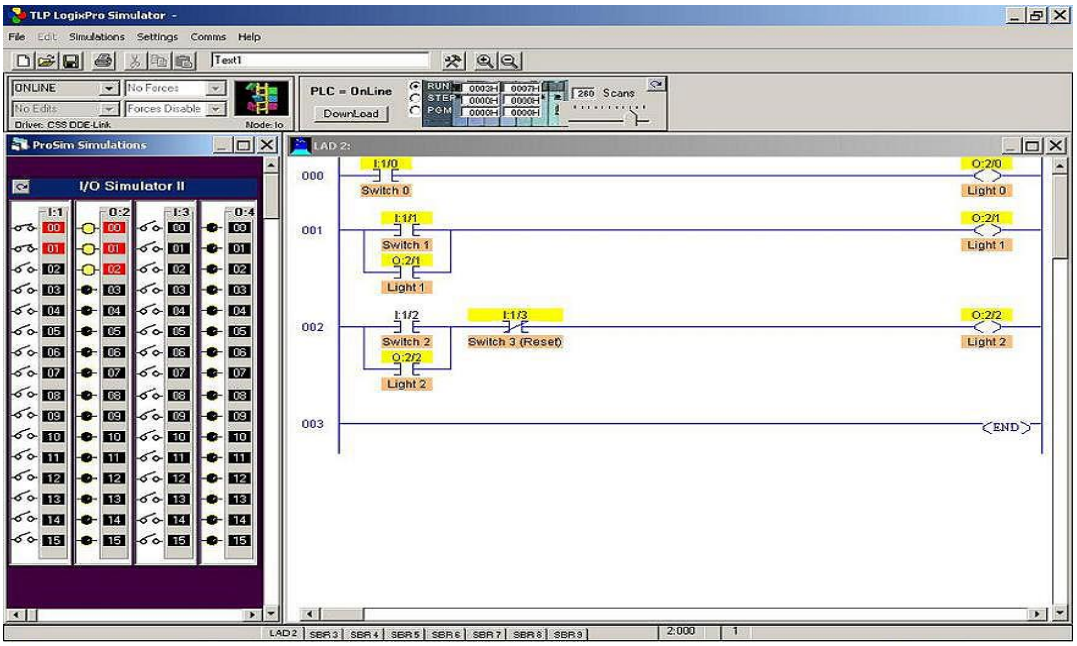
Day 5

0730 – 0930	***DP Flow Sizing Calculations***
0930 – 0945	*Break*
0945 – 1100	***DP Flow Sizing Calculations (cont'd)***
1100 – 1215	***Multivariable Flow Transmitters***
1215 – 1230	*Break*
1230 – 1350	***Multivariable Flow Transmitters (cont'd)***
1350 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using one of our state-of-the-art simulators "AB Micrologix 1000 (Digital)" and "Logix Pro 500".

Allen Bradley Micrologix 1000 Simulator (Digital)



Logix Pro 500 Simulator

Course Coordinator

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