ISA Delhi Section

International Society of Automation

ISA(D) NEWSLETTER

Volume 2-Issue II

International Society of Automation

ASIA PACIFIC DISTRICT 14

ISA(D) NEWSLETTER

December'2012 Volume 2-Issue II

From Editor's Desk:

Greetings from ISA Delhi-Section!

We welcome you to the ISA-Delhi Section Volume 2-Issue-II of Newsletter, December'2012 edition. This newsletter provides you with an insight on events, technical knowhow and technology development news. Please feel free to discuss this newsletter with others in your organization.

And should they wish to receive the newsletter regularly, we encourage them to send request for the same.

ISA-Delhi is delighted to share technical papers, experiences and industry analysis with you. We hope you will enjoy these as you have in the past.

We are keen to enhance the value of this technical newsletter and will be happy to receive some technical write-up, technical experiences, your comments and feedback that you would like to share with ISA members, please write to isadelhi.org@gmail.com

POWAT-2013 is slotted for 12th and 13th April'2013 at Hyatt Regency Hotel, Bhikaiji Cama Place, New Delhi. We cordially invite you to be a part of this event individually and expect you as a sponsor/delegate for this event. You can block your dates in 2013 calendar.

With best wishes,

Manish Kumar
(Newsletter Editor- ISA Delhi Section)

From the Desk of President:

I am glad to present before the members, the Volume 2-Issue-II of this News letter of ISA Delhi Section after a grand success of Mega Technical Event, PNID – 2012, one day Conference and Exhibition on Petroleum and Natural Gas Industries Domain in Hotel "The TAJ PALACE", Sardar Patel Marg , New Delhi on 5th October 2012 (Friday)

I once again thank all the dignitaries, participants, High Power Technical Committee members, executive committee members and all others who supported ISA-D to make this mega event a grand success.

On behalf of executive committee, I would like to thank all sponsors, exhibitors, speakers and also compliment them for sharing their valuable technical knowhow with all our participants from various Oil and Gas Industries.

I certainly wish that with the support of our active members, our next mega event POWAT-2013 (Power Automation Technology Event) on 12th & 13th April'2013 at "Hyatt Regency Hotel" in Bhikaji Cama Place, Ring Road, New Delhi, will also be a grand success.

I would like to complement Mr. Manish Kumar for his sincere efforts in bringing this fifth issue of ISA-Newsletter for the members.

I take this opportunity to wish each one of you a very happy and prosperous New Year-2013.

With best wishes,

Prasenjit Pal
(Hon President - ISA Delhi Section)

UPCOMING MEGA EVENT

POWAT – 2013, two days **Power Automation Technology Event (Conference and Exhibition)** with theme **"*Automation For Sustainable Development*"** at "**Hyatt Regency Hotel"**, Bhikaji Cama Place Ring Road, New Delhi on **12th & 13th April 2013.**

Glimpses of PNID – 2012
Conference and Exhibition on Petroleum and Natural Gas Industries Domain by ISA-Delhi Section

Technical event, "**PNID – 2012**…. ***Fueling Technology***", one day Conference and Exhibition on Petroleum and Natural Gas Industries Domain was organized by ISA-Delhi Section in Hotel "The TAJ PALACE", Sardar Patel Marg , New Delhi on 5th October 2012(Friday). The event was graced by chief guest Shri A.K. Purwaha, C&MD, Engineers India Ltd., Chief Patron PNID-2012 Shri R. K Ghosh, Director (Refineries), Indian Oil Corporation Limited, Guest of Honour Shri RC Kaul – Jt. Chief Controller of Explosives, Dr. (Mrs.) Vijaya Malik, Scientist F & Head (Pteroleum & Coal Dept), BIS, Dr. Anil Wali, MD-FITT, IIT Delhi and all ISA members and esteemed guests from various industries.

This event started in our socio-cultural way by welcoming and greeting our esteemed dignitaries and lighting of lamps.

Shri A.K. Purwaha, inaugurating PNID-2012 by lighting lamp

Shri R. K Ghosh lighting lamps

Shri Prasenjit Pal, president ISA-Delhi in his welcome address thanked all the dignitaries for being part of this event and giving their precious time from his busy schedule. He also thanked all senior advisors, paper presenters, High Power Technical Committee members, sponsors, participants, exhibitors and all others who supported to make this mega event a happening from beginning.

Our Guest of Honour, **Shri D P Singh, ED-CIO, ONGC** thanked ISA-Delhi for organizing this one day symposium on Automation in Oil & Gas. He addressed the upcoming challenges in Automation industry to meet the high production demand keeping full safety and security requirement.

Shri Prasenjit Pal – President – ISA-D

Shri DP Singh – Guest of Honour, PNID-2012

Dr. Anil Wali, MD FITT, IIT Delhi expressed his pleasure for being Guest of Honour for this PNID-2012 and he explained in speech how this kind of symposium help end users, consultants, professionals, EPC companies, vendors and a platform for sharing knowledge to meet the future challenges in Automation industry.

Dr. Anil Wali – Guest of Honour, PNID-2012

Shri SK Bardhan, DGM, IOCL presenting memento

Shri RK Ghosh, Chief Patron for PNID-2012 expressed his gladness in his keynote address for being part of this mega event. He discussed how Oil & Gas sector, being a critical energy sector are in demand of development in Plant intelligence solutions that help in connecting and integrate the disparate systems that work in isolations. He also explained how requirements for connecting the plant floor with enterprise level to have real time plant information because of high demand in productivity, improved plant efficiency, increased safety & security meeting regulatory requirements.

When one door of happiness closes, another opens; but often we look so long at the closed door that we do not see the one which has opened for us.

- Helen

Shri R. K Ghosh, Director Refineries - IOCL - Chief Patron, PNID-2012

Our chief guest Shri A K Purwaha talked about the importance of Oil & Gas sector as an important energy provider to the Nation and challenges faced by Oil & Gas sector for increasing demand, high productivity, improved plant efficiency, increased safety & security meeting regulatory requirements. He expressed his happiness about this symposium organized by ISA-D, being dedicated to petroleum and natural gas sector with a vision and mission to take the Indian Instrumentation & Automation sector to global heights and bring in the state of art technology in this sector. He also discussed how steady state development is required in the field of Automation services to drive the Industry in a safe and efficient manner enhancing the productivity.

Shri A K Purwaha, C&MD, EIL, Chief Guest

Life Sometimes Becomes So Selfish That It Wants Everything. But While Trying For Everything, We Miss Something That Is Worth Everything.
One should, perform karma with nonchalance without expecting the benefits because sooner or later one shall definitely gets the fruits.

- Rig Veda

Shri A K Purwaha and other esteemed dignitaries released the PNID-2012 souvenir

Shri. S K Dhawan, convener of PNID-2012 congratulated ISA-D for this mega event with a theme and mission of driving Automation technology to a new height and gave vote of thanks to all dignitaries and participants for gracing this occasion and knowledge sharing platform. He also explained how engagement of various stake holders including technology providers and developers would certainly help in achieving the road map for for implementing strategies for automation so essential for a world class petroleum and Natural gas utility.

Shri S K Dhawan during his vote of thanks and presenting memento to Shri A K Purwaha

Our chief guest Shri AK Purwaha inaugurated the live demo exhibition stalls of instruments and control systems put up by various Instrument & Control systems companies and our sponsors.

Real generosity is doing something nice for someone who will never find out.

Shri AK Purwaha inaugurated the live demo exhibition stalls in PNID-2012 with other dignitaries

Shri R K Ghosh at dais while receiving flower bouquet and ISA-Delhi memento

Technical session started with most talked topic on **"Safety & Security"** by eminent speakers from reputed industries with Chairperson Mr. Jasbir Singh and Co-Chairperson Mr. Rajiv Gupta:

- High Integrity Pressure Protection System (HIPPS),
- Leak Detection System,
- Safety and Availability – A Case Study

Thousands of candles can be lit from a single candle, and the life of the candle will not be shortened. Happiness never decreases by being shared.

- Gautam Buddha

Mr. Elango from Mokveld in his presentation on focused on the modifications in the IEC 61508 related to the final elements with an example of its application in the Oil and Gas industry. He started from how IEC 61508 was written in 1998 to all its modifications in latest revision released in 2010. He also discussed Safe Failure Fraction, the hardware fault tolerance reduction, intervals for diagnostic tests. In conclusion he said that in the early days of gas treatment plants the "old" prescriptive standards would require redundant final elements. But that due to the revised definitions of safe failures and diagnostics and the addition of a new route to verify the required hardware fault tolerance the IEC 61508 also requires redundant final elements on higher SIL applications. In addition to this it can be concluded that the use of partial stroking devices on these final elements is not recommended while the standard sets a target for a 100% proof test.

Mr. Elango Pushpalingam from Mokveld

Mr. Elango receiving memento

Mr. G. S. Baveja from Next gen Oil & Gas Ltd. appraised all the participants about "Leak Detection and Location Systems" for detecting leaks in pipelines based on acoustic principle which compliments with existing mass balance system. He elaborated the basic segments : Sonic Leak Detection Systems, Integrated Leak detection System (Acoustic + Mass Balance), MARC one- Sonic Leak detection System for long pipelines, Mass Balance Software for leak quantification.

Mr. G. S. Baveja from Next gen Oil & Gas Ltd

Mr. Baveja receiving memento

Mr. D. Singhal from Haldor Topsoe, India and Ms. Prema Suresh, Technip KT India, in their lectures on "Safety & Availability – Voting Systems", detailed out the Safety Integrity level, failure modes, Fault tolerance, Diagnostics, different voting schemes with typical examples from industry, methods of achieving process safety while improvements in efficiency and eliminating unsafe manual operations with a fail safe installations. They concluded that "It is difficult to conclusively declare which option is the best. All offers good benefits and selecting one would be a difficult task but should be based on how well any option fits in your needs. Evaluate the entire solution and take a well educated decision and also the TUV report and restrictions to be carefully followed".

Ms. Prema Suresh from Technip KT, India

Mr. D. Singhal from Haldor Topsoe, India

Mr. D. Singhal receiving memento

Ms. Prema Suresh receiving memento

All compromise is based on give and take, but there can be no give and take on fundamentals. Any compromise on mere fundamentals is a surrender.

- M K Gandhi

"Wireless Technologies" was the topic for the technical sessions with Chairperson Mr. D P Singh and Co-Chairperson Mr. D Mohanty after the lunch break which consisted of following sections:

- Wireless Technology,
- Wireless HART Standards,
- Wireless Technology improves Plant efficiency, and
- Wireless Solutions for upstream Oil & Gas production.

Shri Hemal Desai from E&H enlightened all the participants with his lecture on the Wireless Technology for Oil and Gas. He explained various fields of applications of Wireless Technology in Factory Automation and also in Process Automation. He elaborated the right application and selection of right wireless technology for it with various examples along with cost benefits. Requirements of different types of software, SCADA, Web Server, Data Access through Web, Integration into client software (e.g. OPC), data inputs etc. were also part of his lecture.

Shri Hemal Desai from E&H

Shri Hemal Desai receiving memento

Mr. Unnikrishnan R from Pepperl+Fuchs detailed out Wireless HART in his presentation. He explained about three main elements of Wireless HART network i.e. (1) Wireless Field Devices, (2) Gateways, and (3) Network Manager. WirelessHART communication concept were also explained (a) Flat Mesh Network, (b) Network Management, (c) Time Division Multiple Access (TDMA), (d) Frequency Hopping and how these are interlocked to overcome the disadvantages. He discussed the various benefits of WirelessHART as this is Fully flexible, saves time in commissioning & installation, userfriendly network diagnostic, Parallellization of planning work packages, Bulk processing saves engineer time, less down time increased productivity, Regulatory Requirements & product enhancement.

Shri Unnikrishnan R from P+F

Shri Hemal Desai receiving memento

Industrial Wireless Technology Improves Plant Efficiency was the subject of **Mr. Vinayak Kore from Honeywell**. In true sense Wireless Technology is changing every aspect of industrial automation in the same way it is changing our everyday lives. In this session participants were explained, how wireless technology can impact people, process and technology to enable efficiency. Process and Asset Efficiency enabler, Technology Efficiency Enabler, People Efficiency Enabler and Benefits of Wireless Technology were elaborated by Mr. Vinayak in his lecture. He discussed how the gains in efficiency drive us to be more globally competitive in an ever challenging market.

Mr. Vinayak Kore from Honeywell

Mr. Vinayak Kore receiving memento

Mr. Mike Ilgen from Emerson appraised all the participants regarding Wireless Solutions for Upstream Oil and Gas Production. He explained how Smart Wireless Oil and Gas users have been able to deploy networks for costs as low as 70% of a wired installation and cost reduction is achieved by complete elimination of junction boxes / cables/cable trays, reduced infrastructures barriers like trenching, flexibility to change

device types and locations very late in design /engineering stage without affecting delivery schedule. This allows companies to initiate production of oil/gas, 12 days earlier than conventional installation.
He also appreciated that Worldwide Oil & Gas producers are adopting wireless on large scale due to intrinsic advantages which come with technology. He presented that studies have shown that 40%-60% of oil and gas production and processing facility can be instrumented wireless.

Mr. Mike Ilgen from Emerson

Mr. Mike Ilgen receiving memento

Under **"Surge Protection S olution"** session, eminent specialists from industries shared their vast experiences and expertise in their own fields with Chairperson Mr. S R Bhatt and Co-Chairperson Mr. P K Midha.

- Surge Protection System
- Surge Protection – A case study
- Surge and Transient Protection System

Mr. Ashish Manchanda from Phoenix Contact talked about the use of surge protective devices in mitigating the effects of lightning strikes in offshore oil applications. In his presentation, he explained the various steps to mitigate primary lightning strike damage. He discussed the linkage mechanism between primary srike current and coupled secondary inductive and capacitive effects. The paper mainly focused on the role of Surge Protective Device (SPD) in mitigating the effects of conducted secondary coupled interference. SPD construction detail variations and typical performance characteristics have been presented to provide a frame of reference for application of SPDs in power and signal line circuits.
He also detailed out IEC 62305 Series, the Technical Committee TC81, (Lightning Protection) of the International Electro-technical Commission release a series of five parts documents under the general heading "Protection against Lightning", Part-1: Protections of Structures against Lightning: General Principles; Part-2: Risk Management; Part-3: Physical Damage and Life Hazard; Part-4: Electrical and Electronic Systems within Structures; and Part-5: Services provide a comprehensive standard.

Happiness is a perfume you cannot pour on others without getting a few drops on yourself.

Ralph Waldo Emerson

Mr. Ashish Manchanda from Phoenix Contact

Mr. Ashish Manchanda receiving memento

A Case Study on Surge Protection was presented by **Mr. Jitendra Chaudhari and Mr. Nakul Gupta from Bechtel India**. In their case study report the following were explained:

- Sources of Surge – Surge and transients are caused due to sudden change in electrical conditions of circuit and release of large amount of energy stored in capacitive and inductive systems of the circuits. Source can be within systems and due to external environment also.
- Consequences of Surge – Sophisticated electric equipments in Oil & Gas industry uses semiconductors which are more prone to failure due to surge and hence shutdown, downtime to industry.
- Technology available for Surge protection – Voltage Limiting and Voltage Switching are two most common technologies for surge protection. Common voltage limiters are Metal Oxide Varistor (MOV) and Silicone Avalanche Diode (SAD). Voltage Switching component is Gas Discharge Tubes (GDT).
- Parameters for selection of surge protector and when to use surge protection.

Mr. Jitendra Chaudhari from Bechtel India

Mr. Jitendra Chaudhari receiving memento

Mr. Brijesh Malik from DEHN, India also elaborated the importance of Surge Protective Devices in different lightning protection zones of plant hazardous area to ensure optimum availability of the system. He also highlighted various types Surge Protective Device in power, signal and data lines:

- Metal encapsulated Spark Gap based technology for Fire Safe & Fire Proof operation
- Heavy Duty Zinc-oxide varistor, Gas Discharge tube for discharging surges.
- Online condition Monitoring of Control and data line SPDs.
- Special enclosure based Surge Protection Solutions for field Devices, Siolating joints & different grounding.

He also discussed various solutions for external and internal lightning surge protection solution for process Automation System, Control System protection for I/Os cabinets of DCS/PLC and Power supply system, Field transmitters and control system input terminals, Foundation Fieldbus and Profibus devices, surveillance and communication systems etc.

Mr. Brijesh Malik from DEHN, India

Mr. Brijesh Malik receiving memento

Dr. Mrs. Vijaya Malik, Head (PCD), BIS expressed her gladness for being part of PNID-2012 conference and exhibition organized by ISA-D.

Dr. Mrs. Vijaya Malik, Head (PCD), BIS during her speech and receiving memento from Mrs. R Priyamvada

She discussed the activities of Bureau of Indian Standards (BIS) in the development of National Standards which is spread over 14 Divisions, out of which Petroleum, Coal and related Products Division (PCDC) covers Oil and Gas sector.

She explained the importance of standardization in expanding global market, technological innovation and access to information and knowledge. She also enlightened how our country has made significant contribution in the field of standardization ay national and international level through Bureau of Indian Standards (BIS). She talked about harmonization of Indian Standards and International standards to minimize the barriers in International trade.

"Panel discussion on Statutory Requirements" among technocrats and experts in this field Mr. R C Kaul Jt. Chief controller of explosives, Mr. P. K Sarkar from DGMS, Mr. Rohit Bhardwaj, Mr. Rejith Thomas, HOD(I), Technip, Mr. Mike Ilgen from Emerson turned out to be subject of interests for all the participants after long brainstorming technical sessions. Various queries and curiosity of participants were explained by these panel members on Standardization, procedures for getting approvals and certificates for imported products to be used in Oil and Gas Sectors.

Technical Experts Panel Members for Panel Discussions

Mr. RC Kaul, during Panel Discussion

Shri P K Sarkar during Panel Discussion

Efforts of all the participants, sponsors, exhibitors, speakers were analysed by High Power technical Committee and best participants in each category like Best Stall and Best Paper were rewarded with token memento by ISA-D.

Token of appreciation Memento for Best Stall was presented by ISA Delhi section to exhibitors

Token of appreciation Memento for Best Technical paper was presented by ISA Delhi section

Esteemed Audiences enjoying the Tehnical Presentations

ISA Delhi Section acknowledged the active partcipation of all veterans from industries for being the Chairpesron and Co-Chairperson for various Technical sessions by presentening a token of appreciation.

Mr. Mahesh Kumar presenting memento to Mr. DP Singh

Mr. SK Dhawan presenting memento to Mr. R C Kaul

Mrs. R Priyamvada presenting memento to Mr. SR Bhatt

Mr. Rajiv Gupta presenting memento to Mr. Jasbir Singh

Mr. Rajiv Gupta presenting memento to Mr. R J Thomas

Mr. Jasbir Singh presenting memento to Mr. P K Sarkar

ISA Delhi Section also arranged lucky draw for all the esteemed audience, delegates who visited the exhibition and stalls in PNID-2012, winner was presented with Blackberry phone.

Mr. Rohit Bhardwaj during lucky draw

Mr. S K Kaul presenting Blackberry to the winner

This mega event concluded with vote of thanks by Mr. Prasenjit Pal, President, ISA-D section and gala networking dinner with all esteemed guests and members and heartfelt memorable moments.

Guests, Dignatories and all Participants enjoying during networking Cocktail and Dinner

Anybody can become angry - that is easy, but to be angry with the right person and to the right degree and at the right time and for the right purpose, and in the right way - that is not within everybody's power and is not easy.

- Aristotle

TECHNICAL MEET: AUGUST'12

ISA, Delhi Section arranged a Technical Meet in association with M/s DVTEL INDIA PVT. LTD. on 24th August 2012 at Mosaic Hotel (Earlier known as Shipra Hotel), C -1, Sector -18, Noida, UP. The Topic covered was:

- **IP CCTV Technology For Industrial Requirement**
- **Revolutionary Advanced Surveillance Applications.**

The Technical Topic was presented by **Mr. Yogesh Wani, Head Technology, DVTEL INDIA PVT. LTD.**

The topic of seminar focused on the advantages of Enterprise **Network Video Management Sol ution (NVMS)**, highlighting the concept of **Total Cost of Ownership (TCO)** and use of surveillance systems in security & operations of various industrial projects. The seminar provided excellent opportunities for end users, consultants and system integrators.

Mr. Wani has also touched upon the importance of Modular, Scalable, Redundant and Resilient architecture in the basic design of any industrial surveillance system with advanced planning of future requirements. He has also demonstrated and elaborated the various integration possibilities of surveillance system with control and instrumentation systems of plants, which can ensure quick response during any abnormalities and thereby increasing operational efficiency.

The event was graced by audience from consultant Community, Oil & Gas, Power, Cement, Paper & Pulp, Fertilizers & Chemical Industry. Live demonstration of various advanced applications and products was also arranged by DVTEL, which gave the audience an opportunity to know about latest developments and their relevance in automation of plants.

PHOTOGRAPHS OF TECHNICAL MEET-AUGUST'12

Look at the sky. We are not alone. The whole universe is friendly to us and conspires only to give the best to those who dream and work.

- APJ Abdul Kalam

TECHNICAL MEET: SEPTEMBER'12

ISA, Delhi Section organized Technical Meet in association with M/s Infinova India Pvt. Ltd on 28th September 2012 (Friday) at Mosaic Hotel (Earlier known as Shipra Hotel), C -1, Sector -18, Noida, UP.

The subject was **Innovative & Robust products in CCTV security systems for Industrial sector** and presented by Mr. Sumit Arya from Infinova.

The topic of seminar focused on the diverse product line of Infinova catering to tough industrial requirements which includes analog, IP cameras, Explosion proof cameras, IR PTZ cameras- working even in Zero lux level of light. **Network Video Management Solution (NVMS), Network Video Recorder (NVR) & Video Intelligence built into Integrated software,** & the use of surveillance systems in security & operations of various industrial projects.

Mr. Sumit demonstrated with the help of demo videos the robustness of the system, where the IP recording system is functional on train coaches even in the event of collisions. Some of the highlighted products are featured in this section.

Hazardous & sensitive installations like Oil & Gas Industry are receptive to Infinova's robust & industrial products & solutions, Indian Oil Corp (IOCL), GAIL - various locations in India. Power Sector is (24*7*365) industry & uptime of the all the systems, especially, security systems is vital. Infinova products have withstood the harsh & challenging environment of textile, chemical, & like of fertilizer industries, Vardman Industries, IFFCO- various locations in India. 47 Airports in India and world's Largest Rail Network trust none other than Infinova to keep security a top priority, 10 Railways Stations in India have Infinova solutions.

The event was graced by audience from consultant Community, Oil & Gas, Power, Cement, Paper & Pulp, Fertilizers & Chemical Industry. Extensive Interactions & demonstrations of various advanced applications and products was also arranged by INFINOVA, which gave the audience an opportunity to know about latest developments and their relevance in Industrial environment.

TECHNICAL MEET: OCTOBER'12

"Harnessing The Power" GC 8000 Process gas Chromatograph was the topic of discussion during the technical meet arranged by ISA, Delhi Section in association with M/s Yokogawa on 19th October 2012 (Friday) at Auditorium, Scope Convention center, Scope Complex, Lodhi Road, New Delhi.

Technical meet started with socio cultural way by lighting lamps in presence of all delegates, speakers from Yokogawa, Japan and esteemed guests.

The presentation started with topic "Mission and Vision" by Mr. Aspar San having more than 38 years of experience in the area of Test & Measuring and Process Control Instrumentation followed by topic on

"Sensor Technology" by Mr. HideoTakeuchi who has vast experience on field instruments, DCS, Analytical and Measuring Instruments.
Mr. Hidefumi Motohashi a veteran in Gas chromatograph, FT-NIR and Ion Chromatography technology explained the "GC 8000 Process gas Chromatograph". Starting with its basic working principle and he covered all its advantages over other products and its uses in various applications.

Yokogawa officially launched GC8000 Process Gas Chromatograph in India during ISA-Delhi technical meet.
Various queries of the audience were answered and clarified by experts from Yokogawa India as well as from Yokogawa Japan.

Delegates and Speakers during inauguration

Speakers and technical experts from Yokogawa

Mr. HideoTakeuchi during his presentation

Audience having a glimpse of GC8000

Art of Selecting a Relay……

By: Ashish Manchanda
From: Phoenix Contact

Clear and reliable potential separation is becoming more and more important for the reliability of industrial automation facilities. Modern relay or optocoupler interfaces fulfill the most varied tasks. Whether in production engineering, for the electrical equipping of machines or in control engineering for power distribution, process automation and materials processing - the main aim is to guarantee the exchange of signals between the process peripherals and the higher level control cabinets. This exchange must provide reliable operation, be floating and electrically unambiguous.

Importance of selecting the right relay…..

In practice, selecting the appropriate relay is also important for maximizing the useful life of the relays. Many a times we ignore basic parameters like the type of load, inrush current handling capacity, input voltage range, Isolation between contact circuit and coil, coil protection, mounting, switching time, with/without fuse etc while selecting a relay due to which we end up selecting a wrong relay for our application. This further leads to premature failure/abnormal behavior of the relay which can lead to system downtime, production losses, etc.
The most common problems that are being faced by Engineers due to wrong selection are:

- Contact arcing due to high frequency switching
- Interferences problems due to poor isolation between contact circuit and coil
- Contact Welding due to high inrush currents
- Non flexible configuration possibilities.

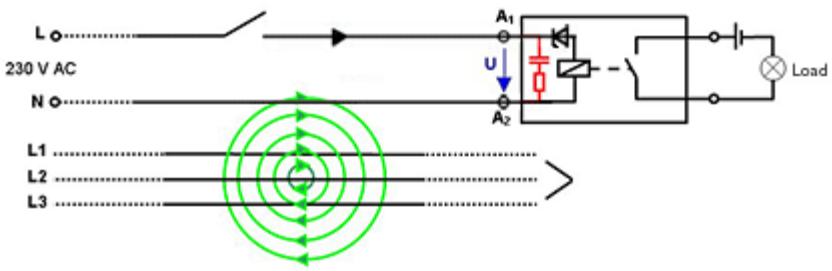
Modern interface modules completely fulfill the requirements for this type of problem.

Relays for all your applications…

Relay is the perfect interface between control and system peripherals for all your different applications as follows….

Relays for large Interference voltages:

Coupled interference voltages are no rarity in the industrial environment. This interference voltage, often encouraged by very long control cables, can lead to the relays not dropping out in spite of "zero signals". Special version is especially designed for such cases. An integrated circuit ensures that coupled interference voltages are absorbed and the relay module functions without problem.
The relay works without problem in spite of interference voltage!



Relays with Inrush currents handling capacity

Capacitive loads, such as a compensated fluorescent lamp, are characterized by the inrush current being extremely high in the first microseconds. This high inrush current causes conventional relays to quickly reach their limits. There are special version available for switching capacitive or inductive loads. Inrush currents of up to 130 A peak are no problem with the solutions available in the market

Relays with Manual switching:

The relay switch module is predestined in connection with an interface relay for applications where the "Manual, Zero, and Automatic" functions must be realized. This can be necessary for startups or in building installations.

Relays with Output FUSE Modules

Relays integrated with Fuse at the Output side are available for applications demanding fuse protection in every path. This also eliminates the need for a separate Fuse terminal block thereby saving a lot of space and wiring inside the panel

- For 5x20mm fuses up to 6A 250V
- Easy Visibility of the fuse condition through window
- Quick connection to existing socket

Relay specially for special engineering applications:

Many railway engineering applications have has requirements that a normal interface module cannot satisfy. For this reason, the ...relay module was developed especially for

- The fire resistance properties of the relay's constituent parts
- High Temperature Coefficient, **-25°C …… 75 °C**
- High resistance to vibration and shock

Special Safety applications

Relays with Force guided contacts are available in accordance with EN 50205 are available for safety applications with 6KV isolation. Such relays ensure reliability for critical safety applications

Relays advantages at a glance….

Whether in 6.2 mm or in 14 mm or 15.8mm wide housings, RELAY offers the right solution for almost all industrial applications.

EMR or SSR as alternatives

Relay module can be equipped in a basic terminal block with either a pluggable electromechanical or a wear-free solid state relay.
Even in the 6.2 mm wide housing, different relays can be used with power contact and a maximum switching capacity of 250 VAC / 6 A

Modules with spring-cage and screw connection are of the same shape

Almost all modules are available in the proven screw connection method, and also in the spring-cage connection method. As the housings - whether 6.2 mm or 14 mm wide or 15.8mm, screw or spring-cage connection - are of the same shape, the same accessories can be used in all modules and accordingly the same potentials can be bridged between them.

Easy connection to the prefabricated system cabling

The Relay together with the system cabling forms an unbeatable team. Simply connect eight relay interfaces in series and plug the adapter into the bridge shafts of the modules. The complete and polarized wiring between control and interface level is achieved in a few minutes.

-----*****-----*****-----*****-----*****-----*****-----*****-----*****-----*****-----*****-----*****-----

PNID-2012 Organizing Committee

TECHNICAL QUIZ – 05

1. What are SLDS and ILDS in leak detection system?
2. What is TDMA?
3. What are architectures wireless HART?
4. What are voltage limiting technologies used in surge protection system?
5. How Gas Discharge Tube (GDT) is used as surge protection system?

ANSWERS TO TECHNICAL QUIZ – 04

1. What does “TDR” technology stand for?

   Answer: Time Domain Reflectometry.

2. What does “ITK” stand for?

   Answer: Interoperability Test Kit.

3. Which European Standard (EN) is for Electromagnetic Compatibility?

   Answer: Electromagnetic Compatibility (EMC) Directive (2004/108/EC), IEC-61000-4

4. What does “LAS” stand for?

   Answer: Link Active Scheduler.

5. Which IEC standard and section is followed to test the instruments suitability for its operation in humid environment?

   Answer: IEC-60068-2-3.

Contact Us

For further queries and suggestions contact our editorial board comprising:-

1) Manish Kumar
manish.kumar@eil.co.in
Mobile: +91-9810890933

2) Radheyshyam Tiwari
isadelhi.org@gmail.com
Mobile: +91-9313384543

Email: isadelhi.org@gmail.com **Web-site:- www.isadelhi.in** **Office phone no:- 011-41759416**