

SAIMC RICHARDS BAY BRANCH

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Newsletter March 2013

The Society for Automation
Instrumentation
Measurement and Control

March Technology Evening—Thermo Fischer Scientific

Conveyor Belt Scale Back to Basics

- Principle of operation
- Conveyor Belt scale system
- Belt scale Sizing and selection
- Conveyor belt scale Calibration
- Belt scale Maintenance

March Technology evening was sponsored by

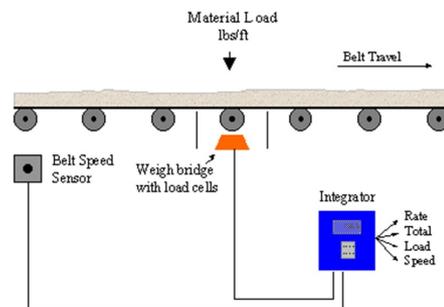


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The March technology evening was held on the 7th of March at Umhambi lodge. The Sales engineer for Thermo Fischer Scientific Erick Wessels gave a presentation on Conveyor Belt scale back to basics. Erick kicked off with the principle of operation of a conveyor belt scale, how the feedrate is derived and the recent trends in belt

Figure 1- Principle of Operation

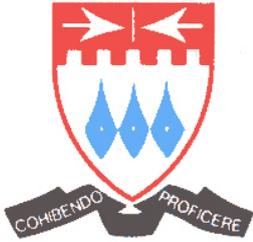


scales in terms of communication capabilities. He explained the importance of all the components of the scale system which includes the Weighbridge, speed sensor as well as integrator. Erick explained the properties and characteristics of each component of the system, and how different factors will affect the accuracy and operation of the belt scale. Belt scale sizing and selection was one aspect that couldn't go without mention. The decision to select a single or multi idler, pivot or Floating Scale is influenced by the specific intended use, accuracy, belt scale design, conveyor design as well as calibration requirements. The conveyor belt positioning is also influenced by

such factors as the conveyor incline, the conveyor shape, loading points. Calibration is one area that many people always take for granted, Erick posed a question to audience when was the last time they ever calibrated the belt speed of which no one had ever done. There are various calibration methods - resistor, static weight, chain and material calibration which have their own pros and cons. The most recommended methods are the chain and material bulk test calibration since they both take the loading profile of the belt into account although the chain calibration comes at a cost. Erick explained the limitations of the belt scale as well maintenance requirements. He stressed that there has to be a maintenance schedule for the scale. If such a schedule is not in place then it is rather better not to clean the belt at all and calibrate it with its dirt as that will form part of its dead load. In conclusion, the conveyor structure, conveyor belt, loading practices and maintenance are as important in accurate weighing as the belt scale itself.



Part of the Guests that attended the March Technology Evening



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“the common question most people ask is, why Join the SAIMC, is there any value or benefits for being a member?”

What Is the SAIMC

Preface

The organisation was originally founded in 1957 under the name “The Instrument and Control society of Southern Africa”, evolved to the “South African Institute of Measurement and Control”, due to developments in the industry. The name was again changed in 2009 to the current

“**Society for Automation, Instrumentation Measurement and Control**”, due to the requirement to include the Automation Industry as well as incorporate its international nature since it has branches beyond the South African borders.

The SAIMC is a non-profit making, non- governmental organisation made up of members and stakeholders in the fields of Automation, Instrumentation, Process measurement and Control.

Affiliates

SAIMC is affiliated to the Engineering Council of South Africa (ECSA), Automation Federation, SACAC, MESA, IFAC

Membership

The current membership constitutes Patrons, Engineers, Technologists, Technicians as well as Artisans in the above mentioned industries. There are different grades of membership

- Student Member (those whose active study is related to Measurement and Control)
- Ordinary Member
- Senior Member(a BSc/ Btech with 3 years experience, Technikon Diploma plus 5 years experience, Trade test certificate recognized by the Department of labour plus 10 years experience)
- Fellow
- Patron
- Honorary Member
- Affiliate members
- Out of town member

Minimum Requirements

the minimum requirements are, a senior Certificate, N3 or Equivalent within the NQF as well as a level of experience acceptable by council.

Why Join the SAIMC

The SAIMC is a place where like minded individuals can interact, share ideas, and develop in the trade. The emphasis is not on what the society can do for you but on what the members can do. The following are some of the benefits of being an SAIMC member:

- The SAIMC organizes CPD accredited Technology evenings every month, in line with ECSA’s requirement for any registered professional.
- Dissemination and communication of relevant information and exchange of ideas
- Provide Mentorship
- Coordinate and promote training for members and students.
- Provide a social platform for members and stakeholders to interact through golf days
- Free monthly issue of SA Instrumentation and control magazine



Eaton EASY 500 with 12 I/O, 8 inputs and 4 Outputs. 2 of the 8 inputs can be configured as analog

EATON EASY 500 Training

Eaton Electric SA held an Easy 500 introduction training at their workshop in Alton, Richards Bay.

Some of the SAIMC members attended the training program that ran over 2 days from the 13th to the 14th of March. Gert Jonker the Technical manager conducted the well planned course.

Day 1 covered the migration from hardwired control system to PLC system, the basic principles of Digital technol-

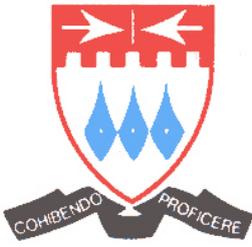
ogy, RS flip-flops, self-latching circuits, set/reset circuits and the implementation of these circuits on the Easy 500.

The first day ended with the theory of operation of a PLC and the numbers systems. The practical exercises for day 1 were done on the Easy 500 using the keypad as well as the simulator on the Easy Soft 6 Application Program.

Day 2 covered the use of Function blocks, including

timers, counters, analog value comparators, display functions and training assignments were done using the Easy Soft 6 Program and downloaded to the easy using the Easy PC Cable.

The training was well received by the people who attended and looking forward to the advanced course coming during the course of the year. There are also various other courses for drives lined up.



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SAIMC R/Bay Committee for 2013

Chairman	- Mervyn Govender
Vice Chairman	- Peter Molokoane
Treasurer	- Wilson Maminimini
Secretary	- Farai Pasipamire
Committee Member	- Pieter Becker
Committee Member	- Terrence Marran
Committee Member	- Charles Jalazi
Committee Member	- Vusi Nene
Committee Member	- Jan Schallies

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For more information Visit our website: www.saimc.net

FORTHCOMING EVENTS

April Technology Evening

The next technology evening will be held on the 11th of April 2013 at Umhambi lodge.

Topic : Fuzzy Logic
Presenter: Kovilan Reddy
Company: Rockwell Automation

Technology Day

Dates to be available soon

Golf Day

Dates to be available soon