

Preface to the Third Edition

The shipping industry has been growing in leaps and bounds over the past few decades. The answer to reduced manning, together with demanding operating schedules, has more often than not been automation. Hence the need of the hour for a seafarer is adequate knowledge of UMS environments, enhanced communication protocols and their supporting systems both ashore and onboard ships.

Often perceived as a complex and little-known subject in the curriculum for a budding marine engineer and qualified seafarer alike, it has always been a challenge to understand the intricacies of a technology that has made shipboard equipment more intelligent and reliable.

With about 40 years of first-hand experience by each of us in this mammoth industry, we have seen control elements, control and communication systems evolve from designs of the post 2nd World War era to the most sophisticated components and networks available today. It has indeed been a wonderful journey through time! These experiences have been our guiding light; they have prompted us to share our acquired knowledge with our counterparts and students in the international maritime industry.

Relevant extracts from SOLAS Regulations and other similar guidelines, have been included with permission; however, these must be used only for academic purposes. Relevant documents onboard ships must be referred to, for the purpose of complying with Classification Societies' and other Statutory Requirements.

Acknowledgement

We are indebted to numerous learned and distinguished people and also to leading world-class organisations for their invaluable support, updated information from their websites and related literature. Their contributions have undoubtedly enriched the content of this edition.

Several publications have been the main source of our knowledge over the years, apart from our own experiences at sea and while teaching this subject ashore in India and abroad. The eminent authors and organisations are listed in alphabetical order. Those readers who are interested in delving into specific topics can, without hesitation refer to these valuable contributions to the world of technology. Other publications apart, these have been our mainstay ...and continue to be...

Reference and Text Books

-  A.K. Sawhney – A Course in Electrical and Electronics Measurements and Instrumentation
-  D.A.Taylor – Marine Control Practice
-  Dr. J. Cowley – The Running and Maintenance of Ships
-  Douglas M. Considine – Instrumentation and Process Controls Handbook
-  Leslie Jackson – Instrumentation and Control Systems
(Reed's Marine Engineering Series Volume 10)
-  Shroff Publishers and Distributors – SOLAS Consolidated Edition – 2004 Edition
-  Shroff Publishers and Distributors – SOLAS Amendments 2003, 2004, 2005 – 2006 Editions

Websites

-  Brian Beattie, Class One Marine Engineer, Webmaster – www.marineengineering.org.uk
For the permission to use any of the information from his popular website mentioned above
-  Electro Sensors Inc. – www.electro-sensors.com
For the information on the Vibration Monitor VS 2
-  Emerson Process Management – www.mobrey.com and Solartron Group (U.K.)
www.solartron.com
For the information on the Fork type Viscometer
-  Fluke Corporation – www.fluke.com
For the information on Calibrators
-  Foxboro www.foxboro.com
For the information on the VA Series Smart (Temperature) Transmitter
-  Fuji Electric Systems, Japan – www.fesys.co.jp and www.fic.net.jp/eng
For the information on the Ultrasonic Flowmeter M-Flow PW

Acknowledgement

- ✧ Jeff Snowden, Senior Technical Writer, Woodward Industrial Controls,
Fort Collins, Colorado, USA – www.woodward.com
For the permission to publish information on Governors and Electronic Fuel Control Systems
- ✧ Jim Russel – www.iceweb.com.au
For the permission to publish information on the IR 6003 Crankcase Oil Mist Detector
- ✧ MAN B&W AS – www.manbandw.com
For the permission to publish extracts from their company literature
- ✧ Saab Marine Electronics AB, Sweden – www.saabmarine.com ; www.marine.combitech.se
For the permission to publish information on the Saab TankRadar
- ✧ Servomex – www.servomex.com
For the information on the Paramagnetic Oxygen Analysis
- ✧ Vindum Engineering Inc, California – www.vindum.com
For the information on the Electromagnetic Viscometer
- ✧ Viscotherm AG – www.viscotherm.com
For the information on the Torsion Pendulum-type Viscometer