



Automation Variety Pack - BBBB (Buy)

A Guide to the Automation Body of Knowledge edited by Vernon Trevathan
Reviewed by Nick Sands

During the development of the Certified Automation Professional (CAP) program there was a thorough review of the body of knowledge, or the concepts and practices documented in books and articles. There were gaps. Vernon Trevathan, the Vice-President elect of ISA's professional development department, and the father of the CAP program, edited this almost comprehensive guide to the body of knowledge. It is modeled after the analogous guide available from the Project Management Institute. Vernon is an ISA fellow with more than 40 years of automation experience, most with Monsanto. Many of the 34 authors are ISA fellows or authors.

The guide is divided into seven sections, aligned with the domains defined in the CAP program. The chapters are brief, from 3 to 19 pages, covering 35 topics. The first section is basic control covering instruments, analyzers, valves, communications, control concepts, documentation and control systems. The second section is on basic discrete and sequence and manufacturing control. Topics include discrete I/O, discrete control, motors and drives and motion control.

The third section is on advanced control, including topics like process models, advanced control, batch control, environmental control, and building automation. Section four covers safety and reliability. Chapters are alarm management, reliability, safety instrumented systems, electrical installations and installation of equipment in electrically classified areas.

Section five covers digital communications, industrial networks, manufacturing execution systems (MES), network security, human machine interface (HMI), database management, and software connectivity. The sixth section covers operator training, checkout and startup, troubleshooting, and maintenance. The final section covers work structures, which is code for something that includes project justification, project management, and interpersonal skills.

This book provides an overview of the many aspects of automation, like a mini Instrument Engineer's Handbook. The chapters are short and in general targeted towards a new practitioner. For each reader, only some of the chapters will cover new topics. Not all of the chapters are well written summaries, but some are excellent. Overall the book is an expensive buy from ISA at \$95 (member price).