AUTOMATED SYSTEMS ELECTROMECHANICS
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Material to support ongoing learning and is 100% on a voluntary basis.
For module 20 (Electro-Pneumatics)

Generally, about sensors (types)

1. https://www.youtube.com/watch?v=J_KoRp8SnoE

2. https://www.youtube.com/watch?v=f15uUSdVkKQ

One can find a lot of information on Omron's site; (pdf files), also on a monthly basis schedule, WEBINARS (FREE) on various topics, sensors (all kind) included.

Students (readers) can create an account with Omron (based on their email address) to access a very large data base on Automation products; pdf files, manuals, also on Safety, etc.

https://automation.omron.com/en/ca/support/resources/downloads?query=proximity+sensors&filters=type==document&page=1&pageSize=10

xxxx our labs are equipped with a lot of Omron equipment

3. https://www.youtube.com/watch?v=fhp61CepgUg (a very detailed description of sensors – who has the patience and the time to watch at)

Working principle of 2 wire DC sensors (magnetic, type REED)

https://www.youtube.com/results?search_query=2+wire+dc+sensor+working+principle

How REED magnetic switches work? (Simple explanation)

https://www.youtube.com/watch?v=qje8LhZXwO0

More elaborated

https://www.youtube.com/watch?v=9HyVSvVZQeI

How to Install REED switches

1. https://www.youtube.com/watch?v=9AWLEugVz5Q

2. https://www.youtube.com/watch?v=uImhEOUhxtU

3. https://www.youtube.com/watch?v=ZklK5DaIOaI

PNP vs NPN sensors

https://www.youtube.com/watch?v=DiBMdpIApmA

Testing PNP and NPN sensors

https://www.youtube.com/watch?v=DiBMdpIApmA

FESTO (a MEES sole supplier) provides a very good source of info for Motion control systems, Electro-pneumatics included: detailed description, by topic, pdf files, and manuals.

Students (readers) can register, based on their email, their cell phone and under the umbrella of a company (RTC, EMSB). This is a matter of getting an EMSB/RTC email address. Students can obtain information and they can be updated with everything is new on a certain topic/domain.

https://www.festo.com/net/en-ca_ca/SupportPortal/default.aspx

About Pressure sensors:

https://www.allsensors.com/pdf/WP-0001_Rev_A.pdf

How pressure switches work:

https://www.instrumentationtoolbox.com/2011/06/how-pressure-switch-works.html

https://www.youtube.com/watch?v=gC2Hx7n7KY4

How to wire and adjust pressure switches

https://www.youtube.com/watch?v=z6ObFHNmvDg

How to adjust a pressure switch:

https://www.youtube.com/watch?v=1VNSv7xVzzU

Dedicated software, such as FESTOsim (electro-pneumatic circuits design and simulation; free reduced

Festo_Fluidsim_Full_Version.exe

version, available for free (if required) ***Available already built various electro-pneumatic applications (files)***

Solenoid operated valves (pdf):
https://www.festo.com/cat/xdki/data/doc_engb/PDF/EN/ISO15407VSVA_EN.PDF

Solenoid and air operated valve technology:
https://www.asconumatics.eu/images/site/upload/_en/pdf1/00007gb.pdf