What are these things called categories

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TÜV Certified Function Safety Engineer

Objectives of this presentation

- Identify why there are categories
- Review selection of categories
- Identify key characteristics of each category
- The content of this document is a an interpretation and summary
- Refer AS4024.1501-2006 for full details

What are these things called categories?

Fatalities in the work place

- Fatalities in the work place ?
  - In 2001?
    - 288, that's a death every 1.27 days
    - Or a death every 30.4 hours !!!
  - In 2004?
    - 189, that's a death every 1.93 days
    - Or a death every 46.3 hours !!!

- Statistic from the NOHSC database

What are these things called categories?

Loss time injuries > 12 Weeks

- How many loss time injuries >12 Weeks?
  - In 2001?
    - 35,516
    - Or simply 97.3 per day !!!
    - Or 4 every hour
    - Which is one every 15 minutes!!!
  - In 2004?
    - 29,856
    - Or simply 81.8 per day !!!
    - Or 3.4 every hour
    - Which is one every 17.5 minutes!!!
- Don't forget that's over 3 months off work!!!
- Statistic from the NOHSC database

What are these things called categories?

Loss time injuries > 1 Weeks

- How many loss time injuries >1 Weeks?
  - In 2001?
    - 150,776
    - Or simply 413 per day !!!
    - Or 17.2 every hour
    - Which is one every 3.5 minutes!!!
  - In 2004?
    - 137,216
    - Or simply 375.9 per day !!!
    - Or 15.7 every hour
    - Which is one every 3.8 minutes!!!

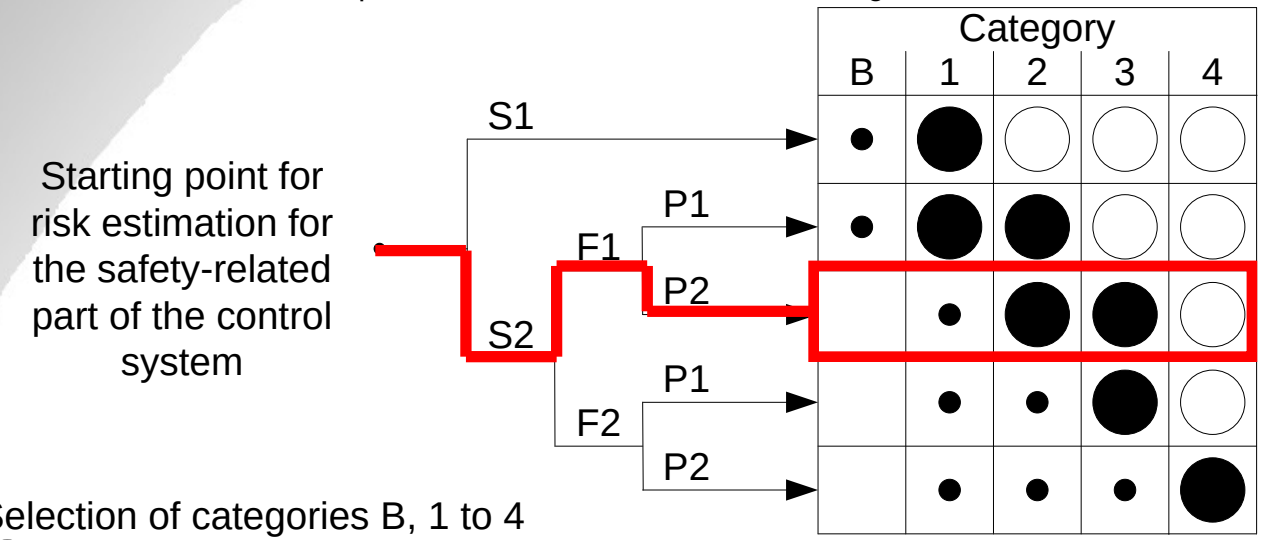
- Statistic from the NOHSC database

What are these things called categories?

Category selection tool

Possible selection of categories for safety related parts of control systems

Reproduced from AS4024.1501-2006 Figure C1



Selection of categories B, 1 to 4

● = Possibility of avoiding the hazard

• = Possible under specific conditions

○ = Nearly impossible

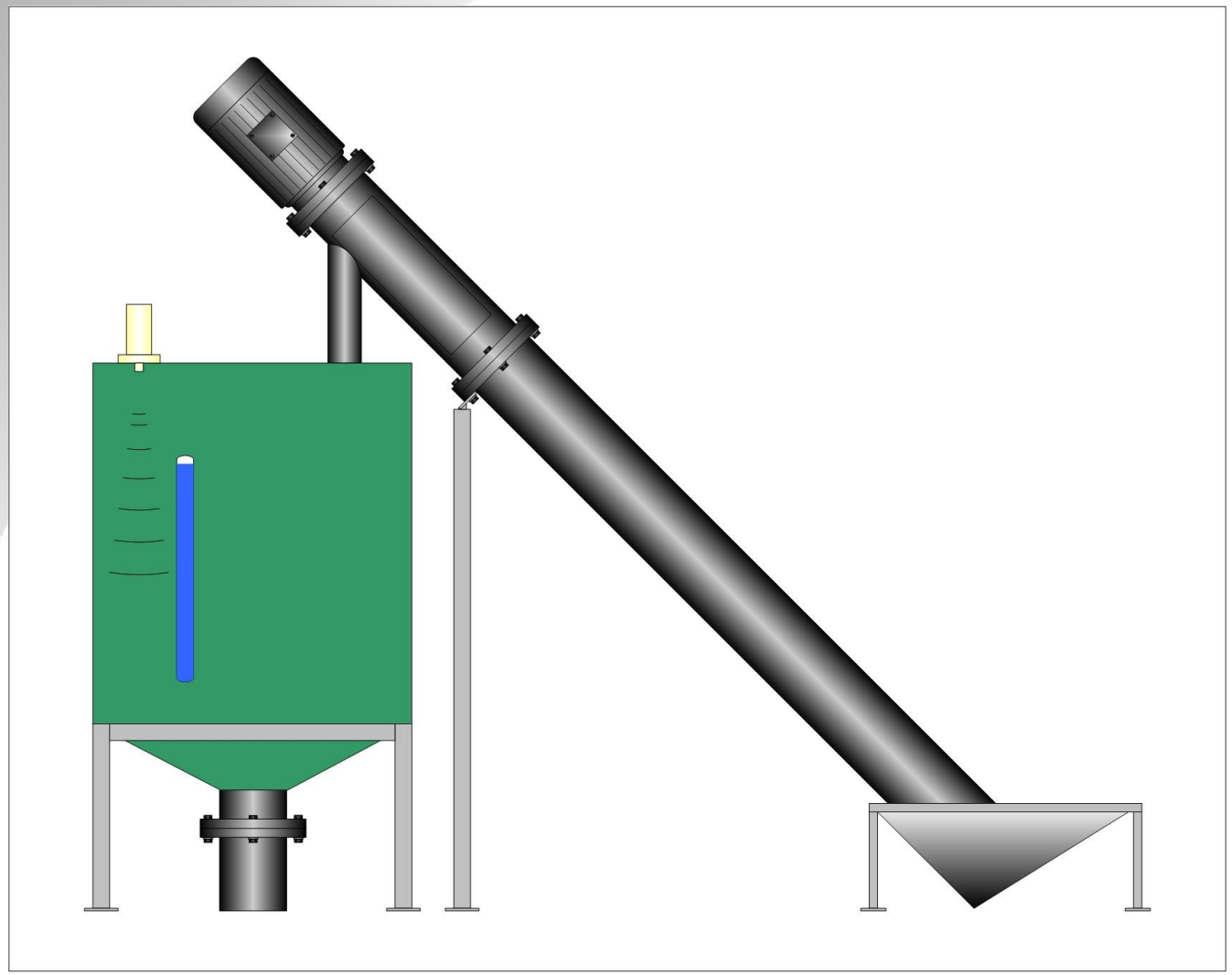
S1 – Slight F1 – Seldom / short P1 – Possible under specific conditions

S2 – Serious F2 – Frequent / long P2 – Scarcely possible

Note: Sage risk assessment provides category from risk determination method

What are these things called categories?

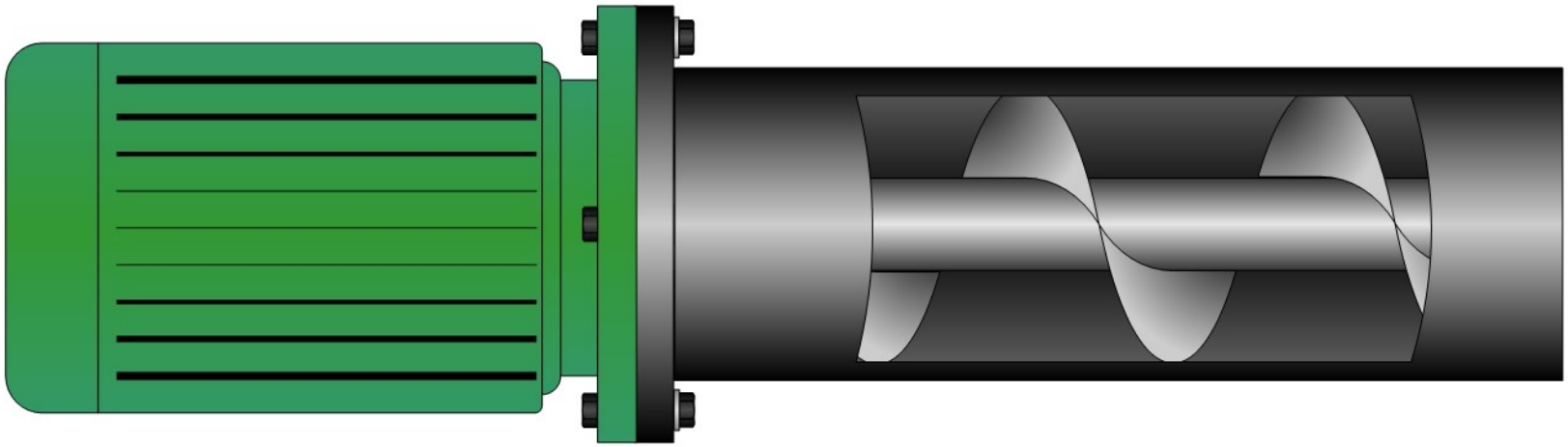
Hopper Example



What are these things called categories?

SAGE AUTOMATION

Screw conveyor



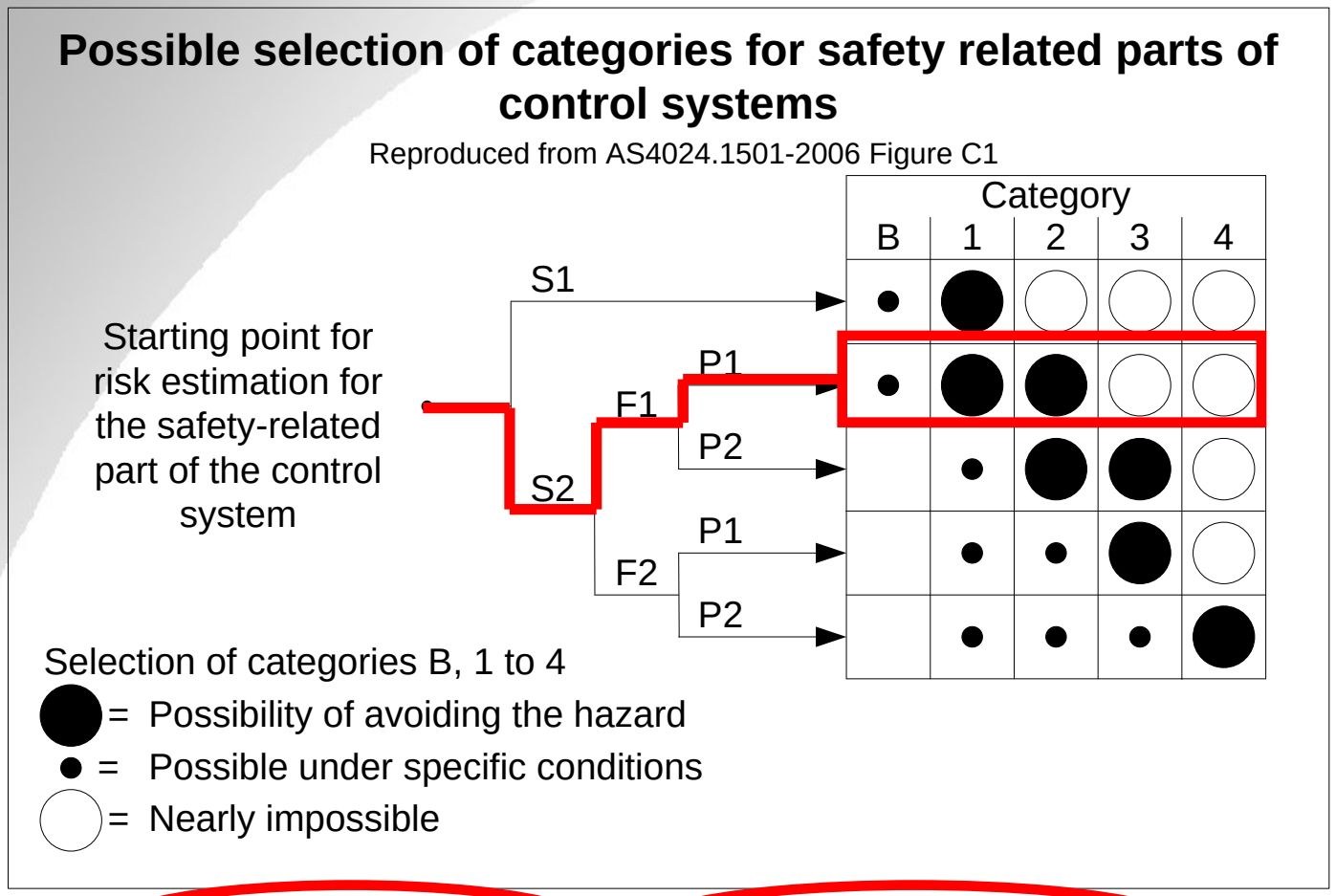
What are these things called categories?

Cleaning Screw with hose

- Need to clean the screw at outfeed
- Clean screw once a day
- Use high pressure hose
- Takes about 5 minutes
- Don’t really enter the screw area

What are these things called categories?

Category selection tool- Cleaning Screw with hose



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S2 – Serious F2 – Frequent / long P2 – Scarcely possible

Note: Sage risk assessment provides category from risk determination method

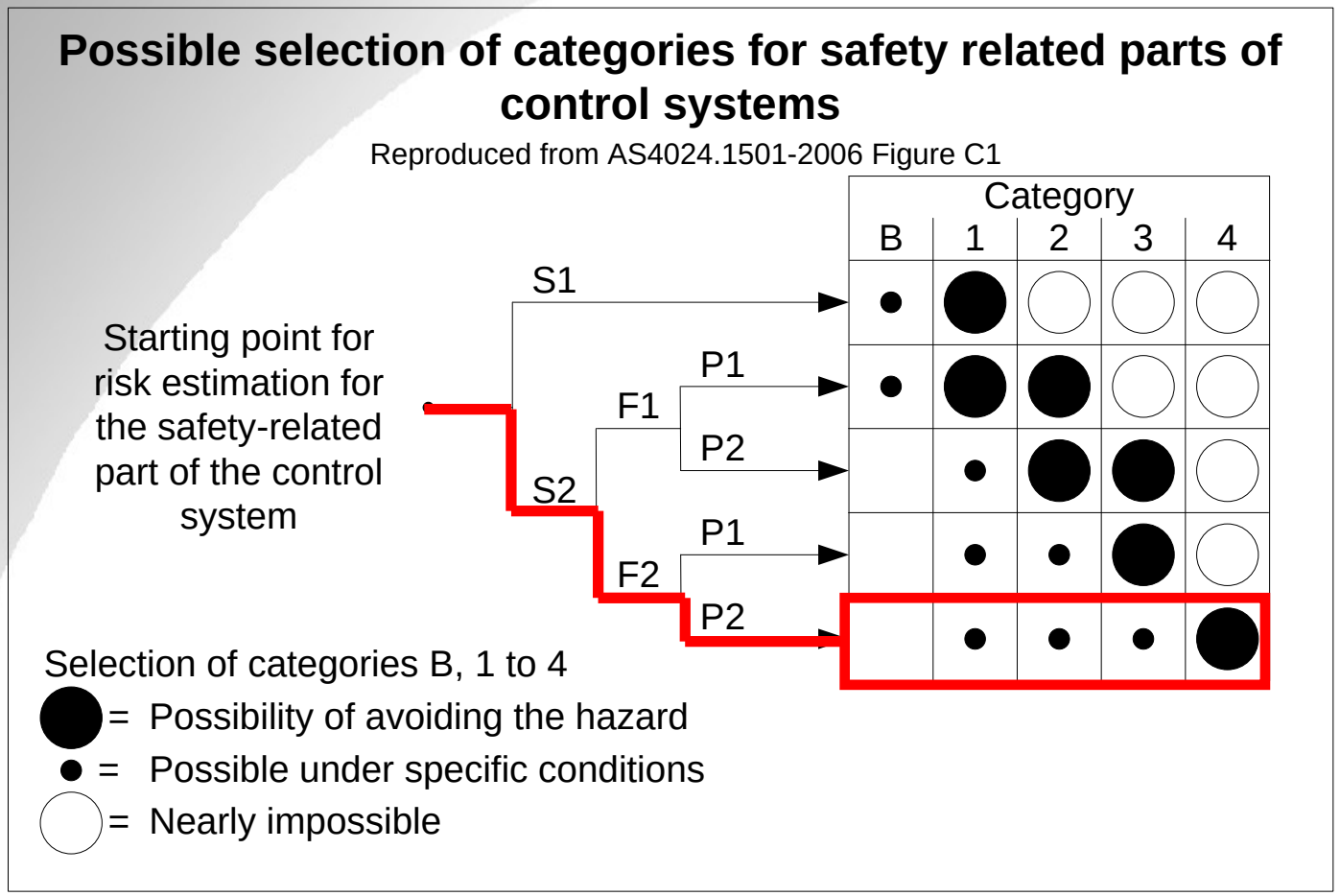
What are these things called categories?

Cleaning Screw with hose

- Need to clean the screw at outfeed
- Clean screw once a day
- Use of scourer
- Takes about 45 minutes
- Have to get right around screw

What are these things called categories?

Category selection tool – Cleaning screw with scourer



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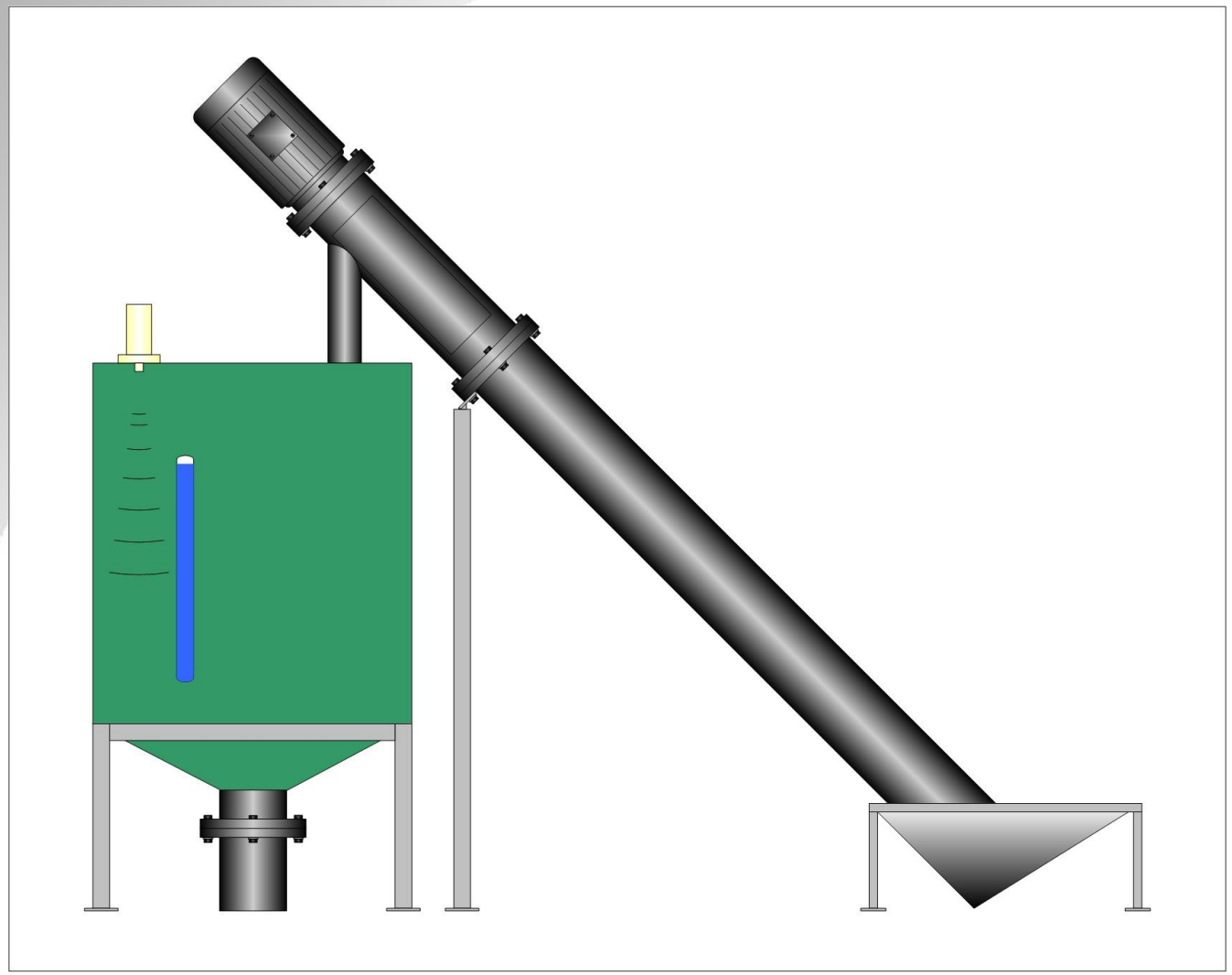

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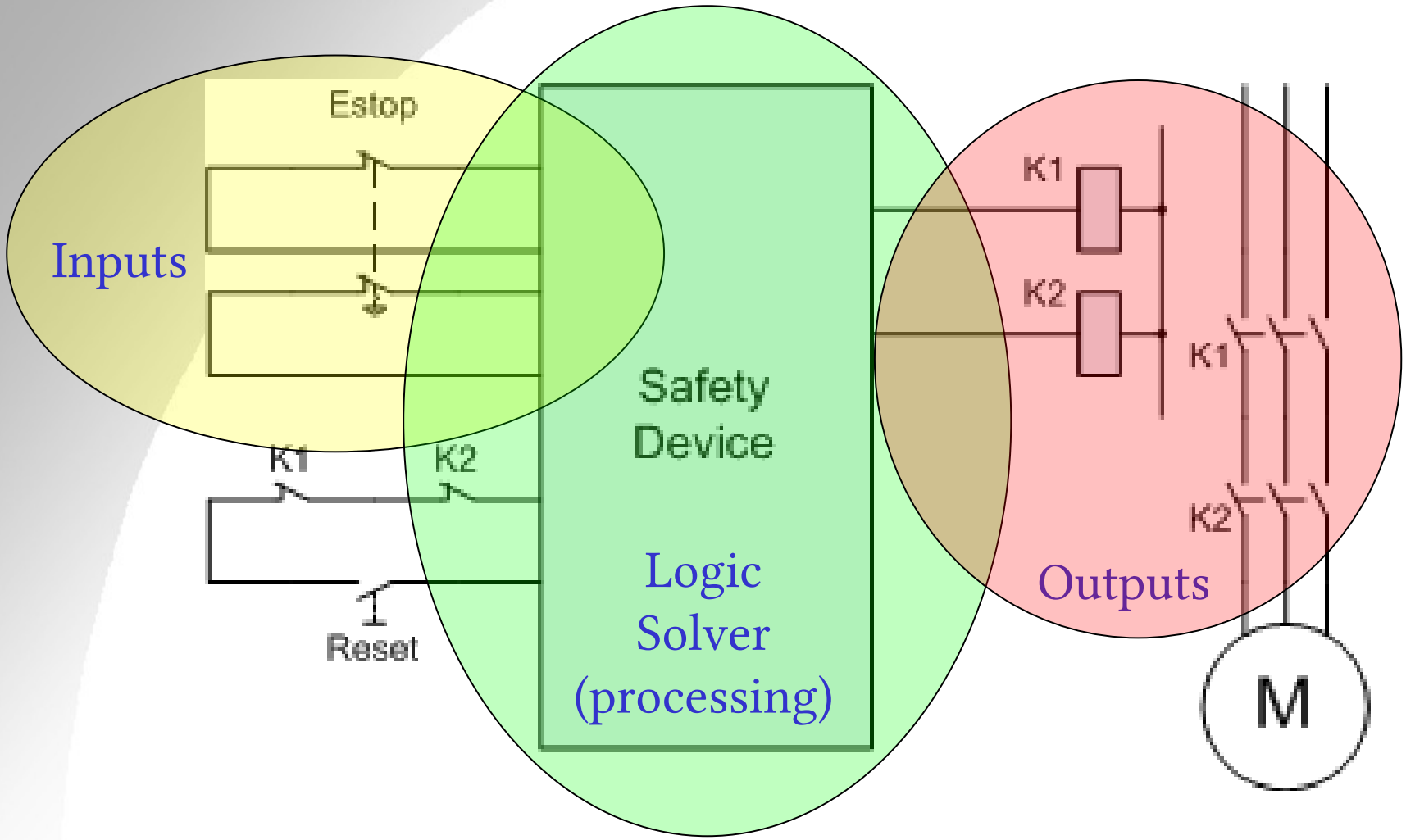
Elements of a Safety Circuit



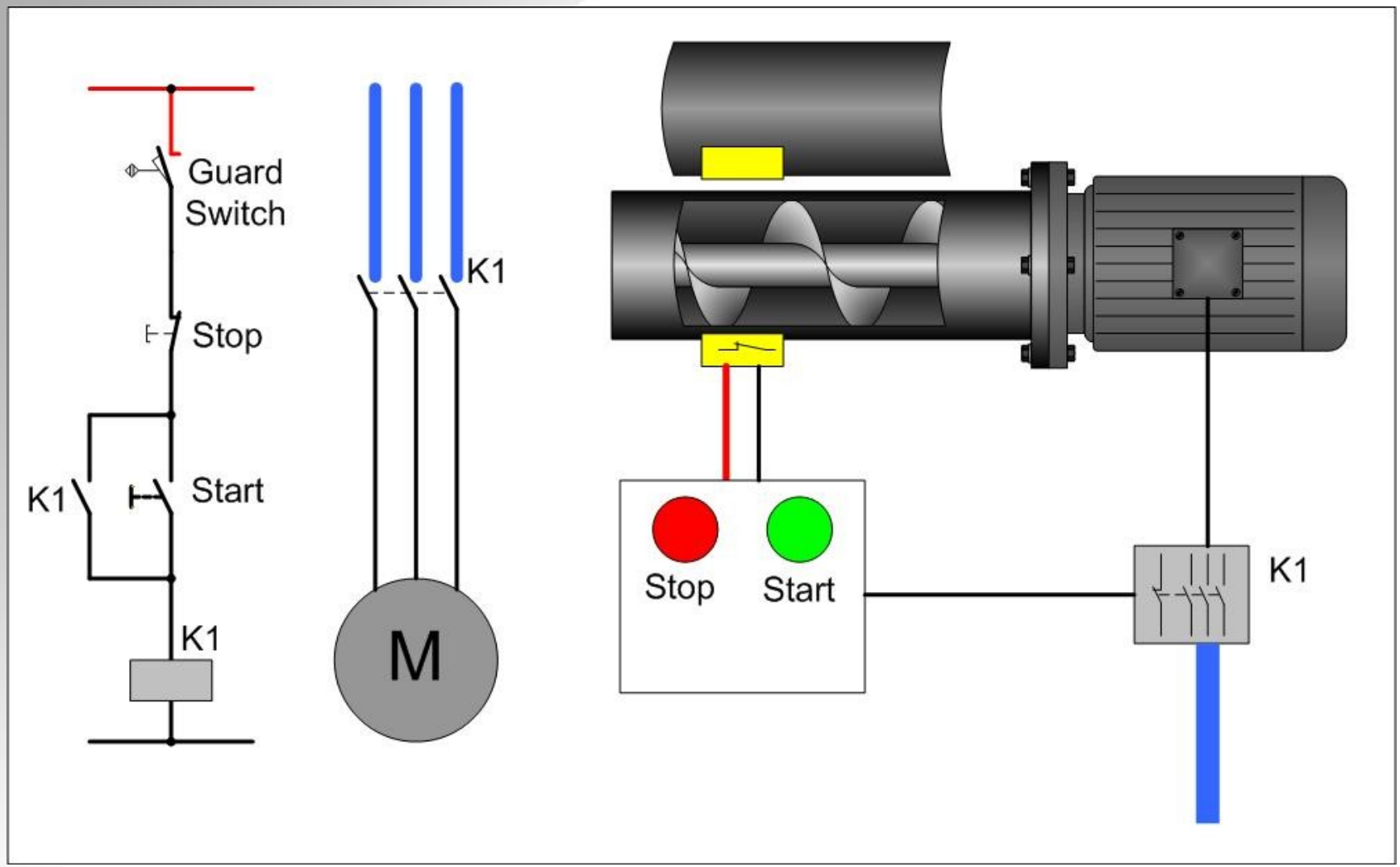
What are these things called categories?

Category

B

What are these things called categories?

Category B - Normal operation



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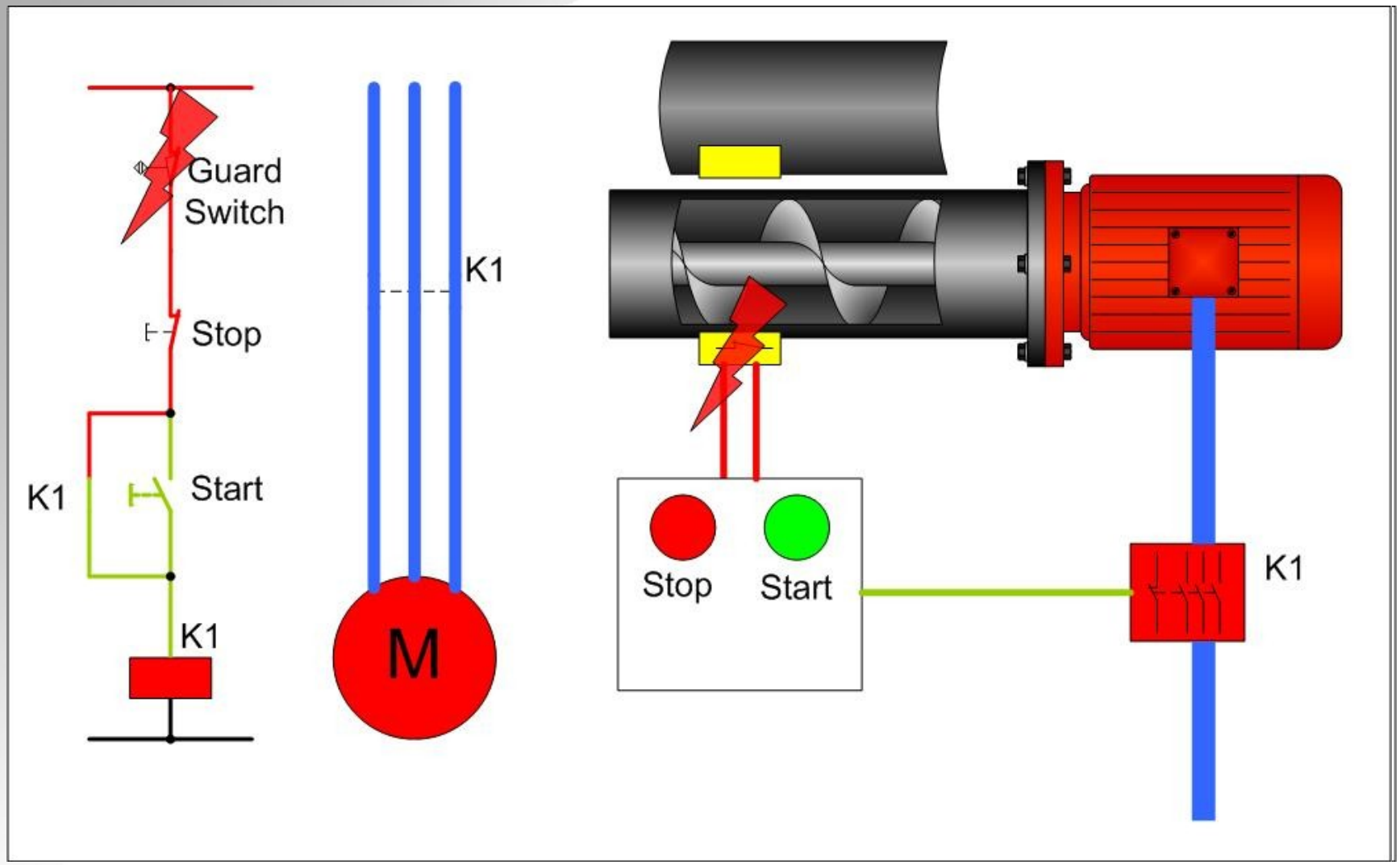
Category B – Guard Switch Fault



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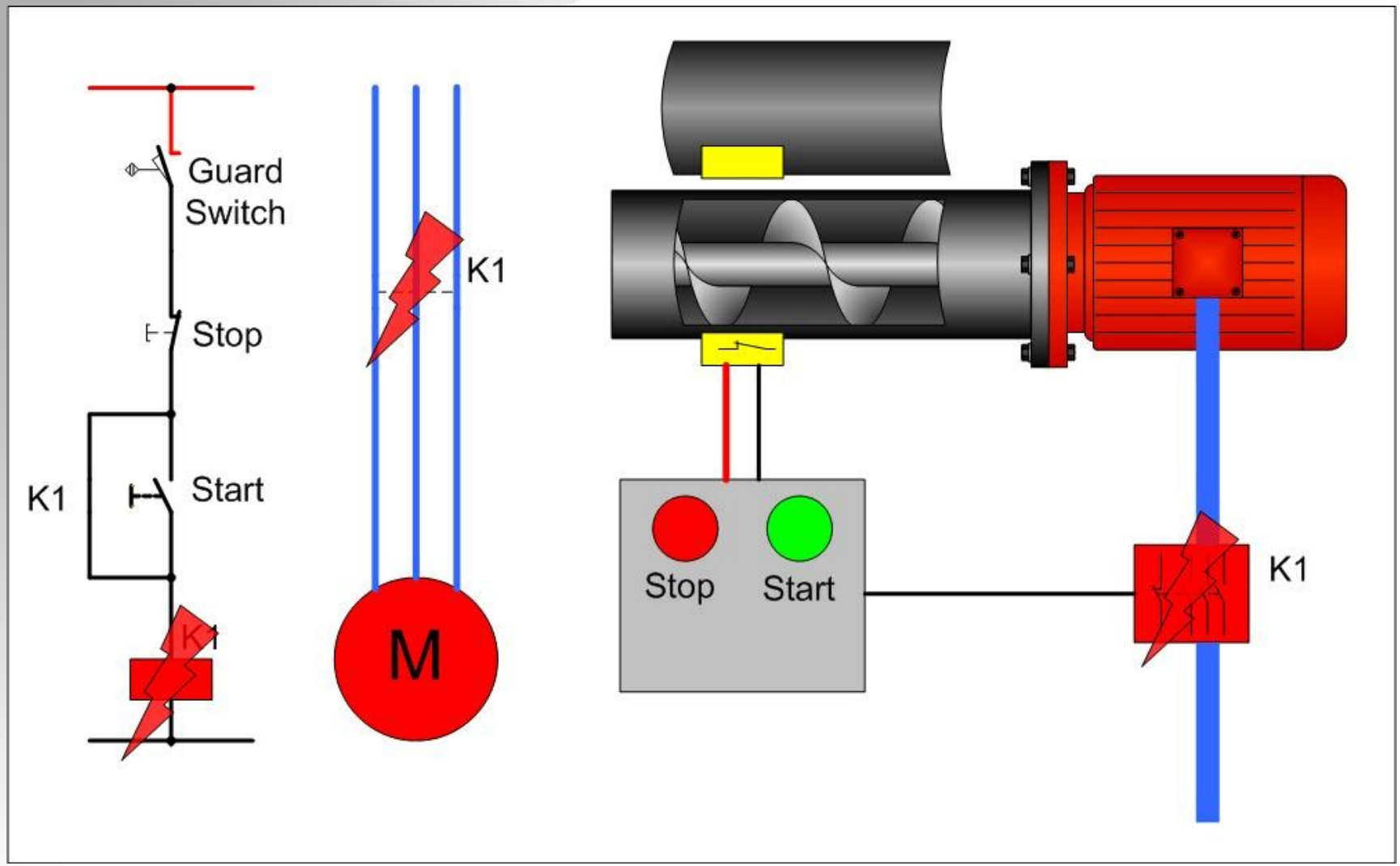
Category B – Contactor Fault



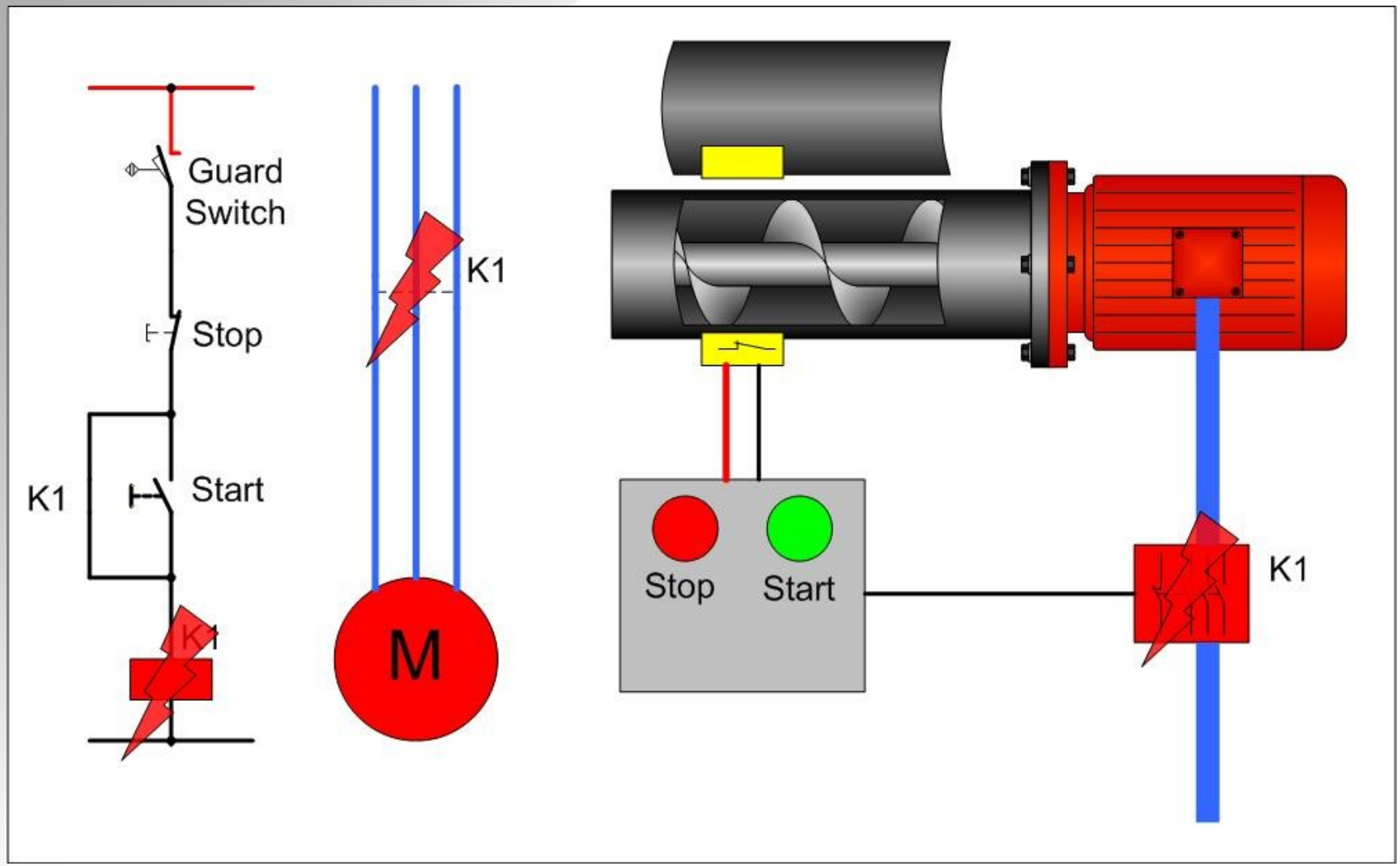
What are these things called categories?

Category

1

What are these things called categories?

Category 1 – Contactor Fault



What are these things called categories?

Category

2

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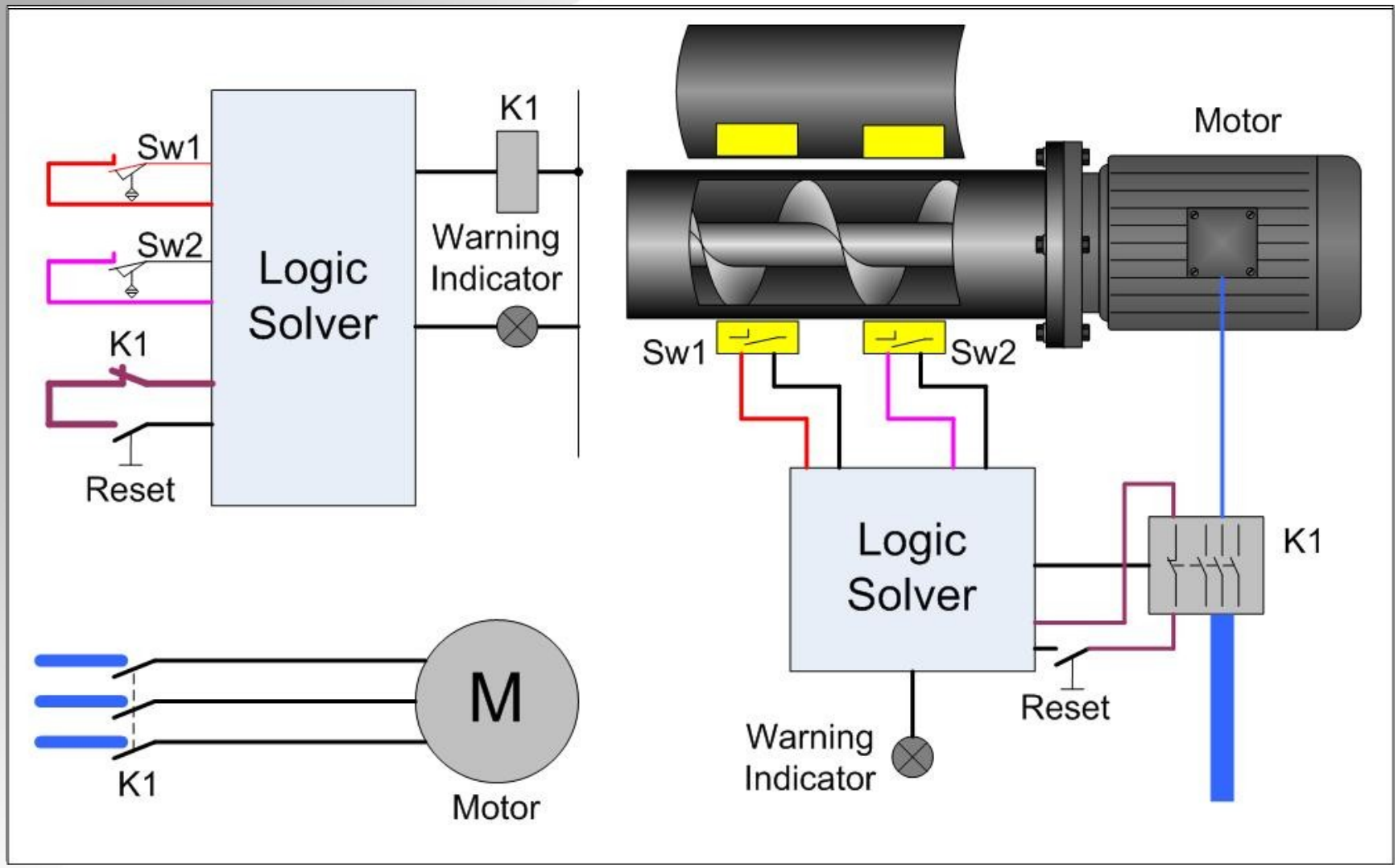
Category 2 – Normal operation



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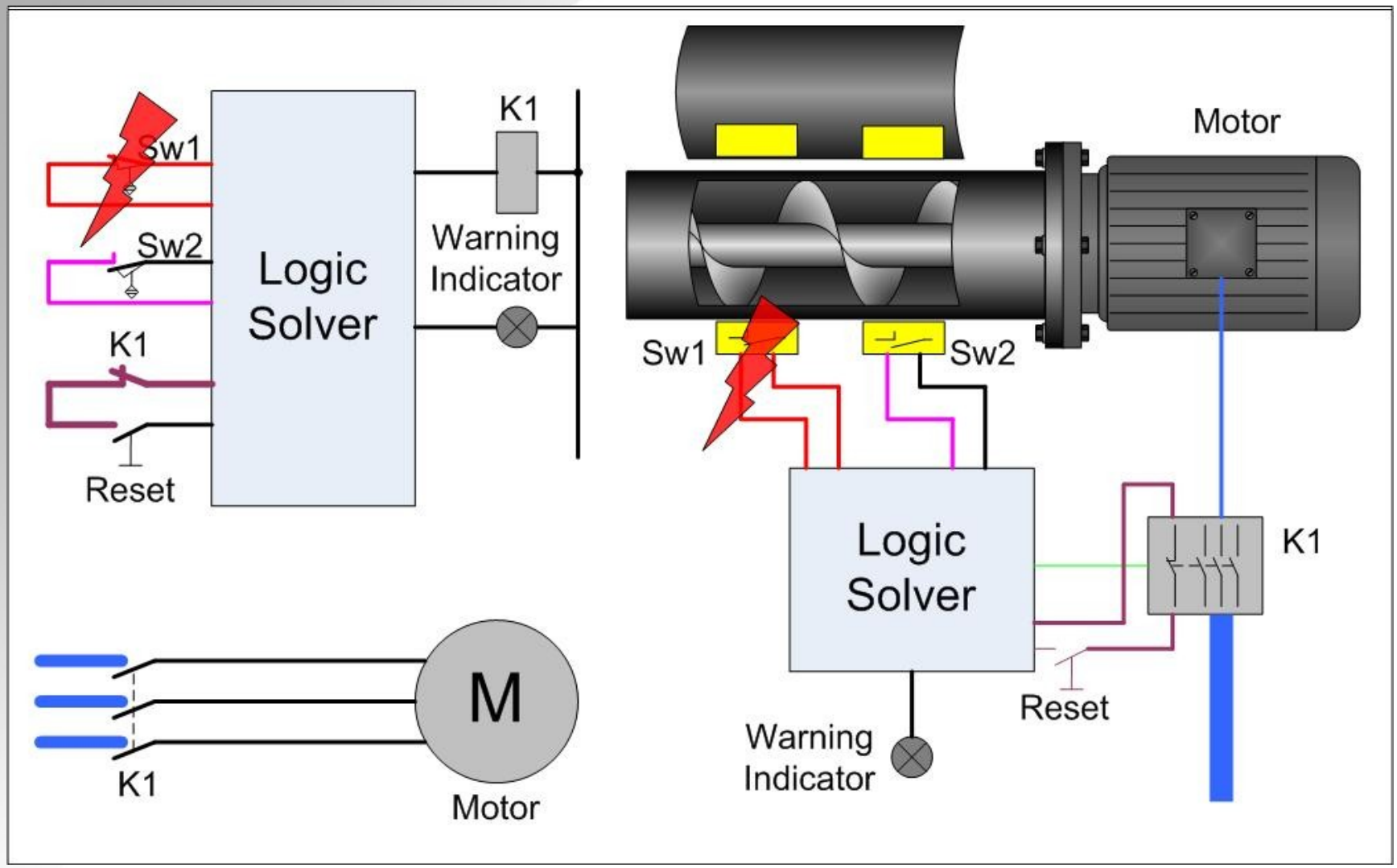

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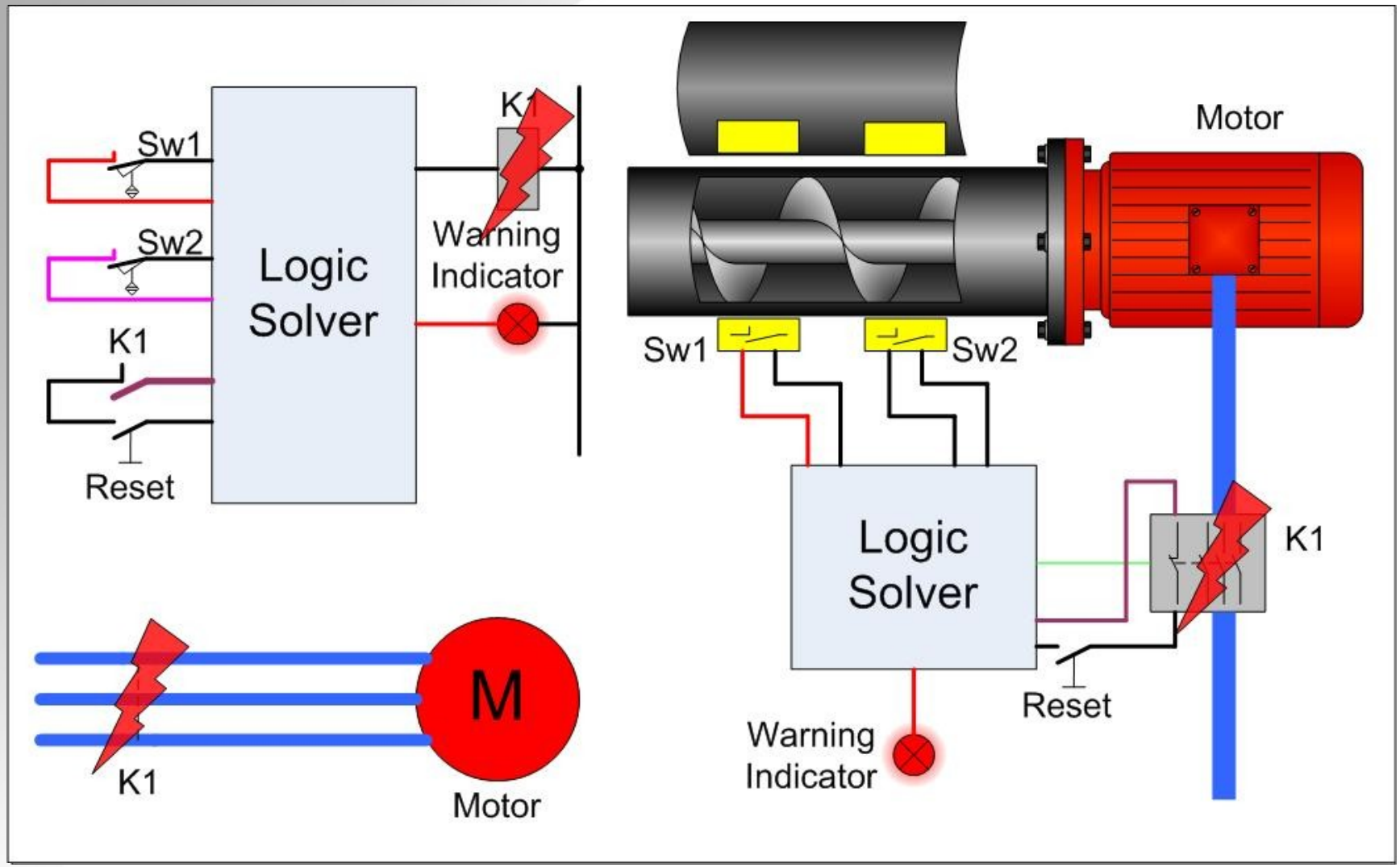


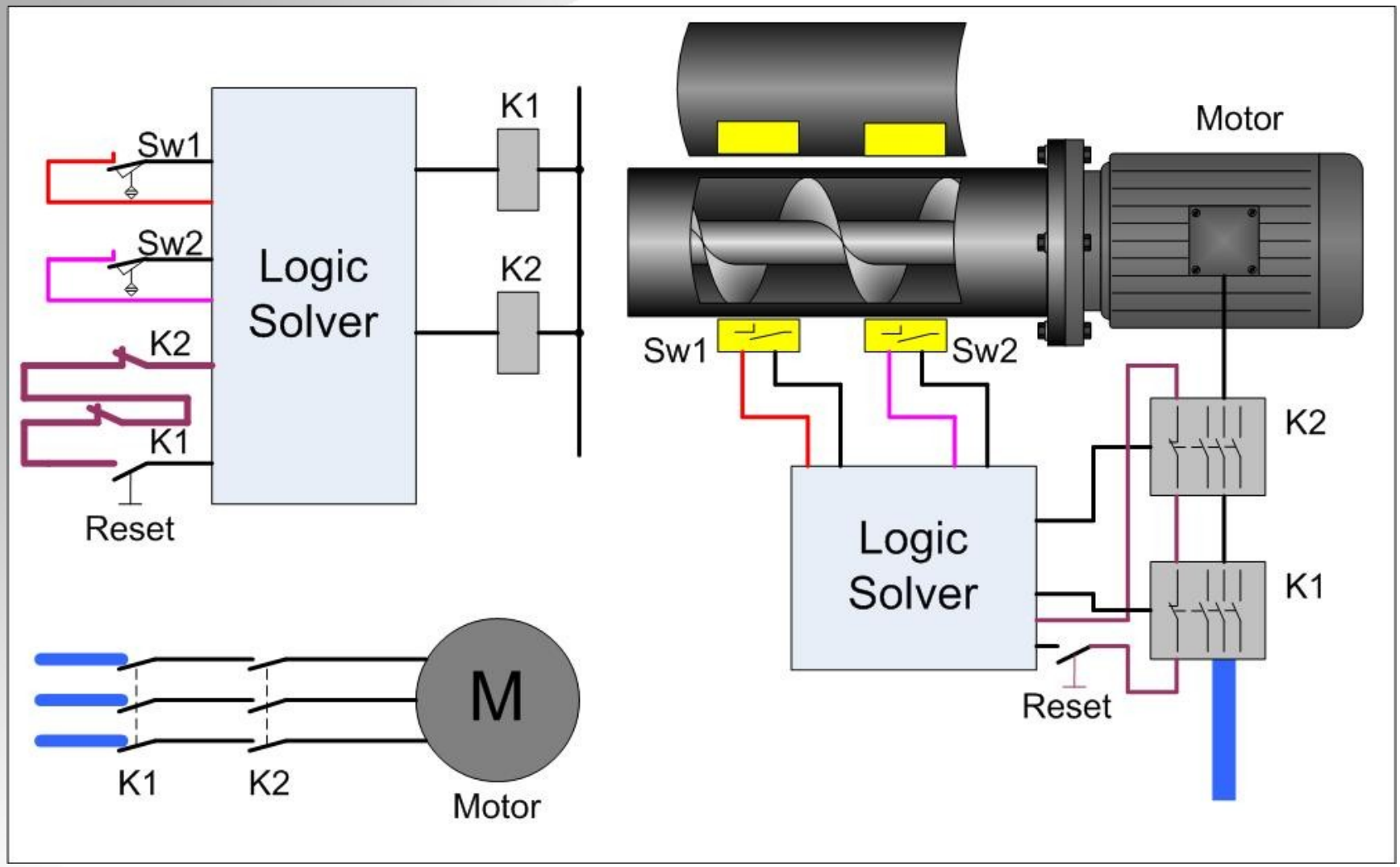
What are these things called categories?

Category

3

What are these things called categories?

Category 3 – Normal Operation



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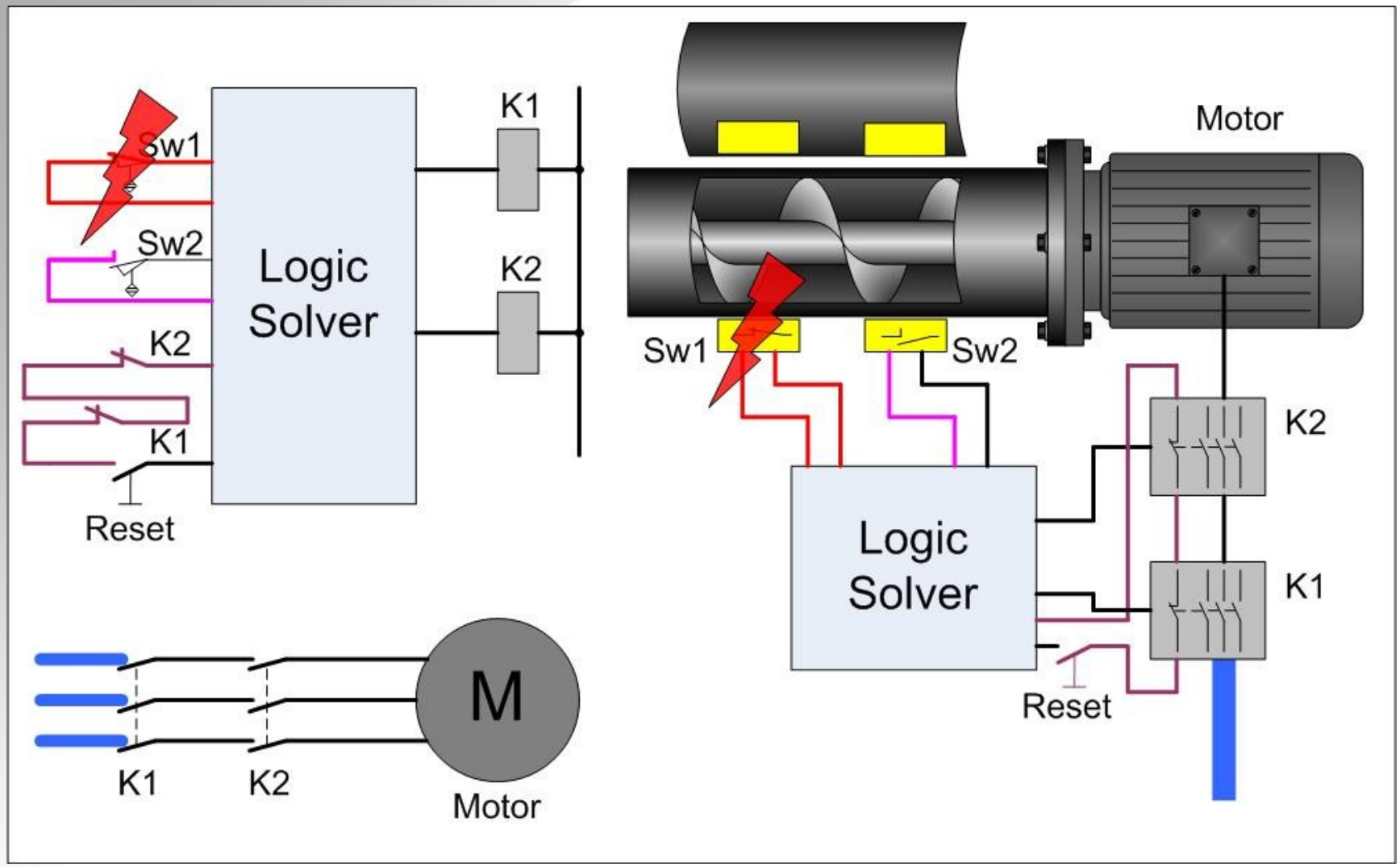

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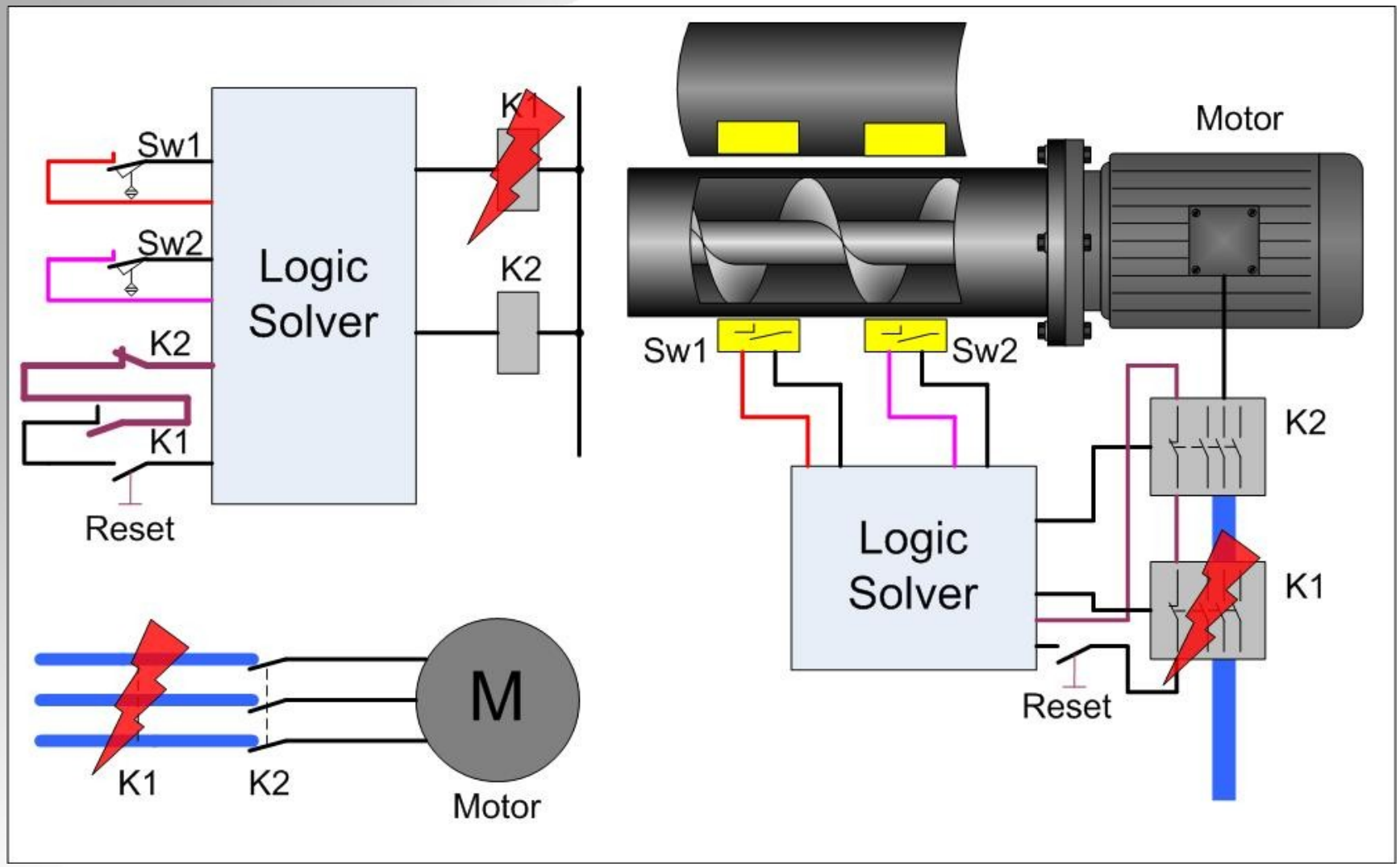


What are these things called categories?

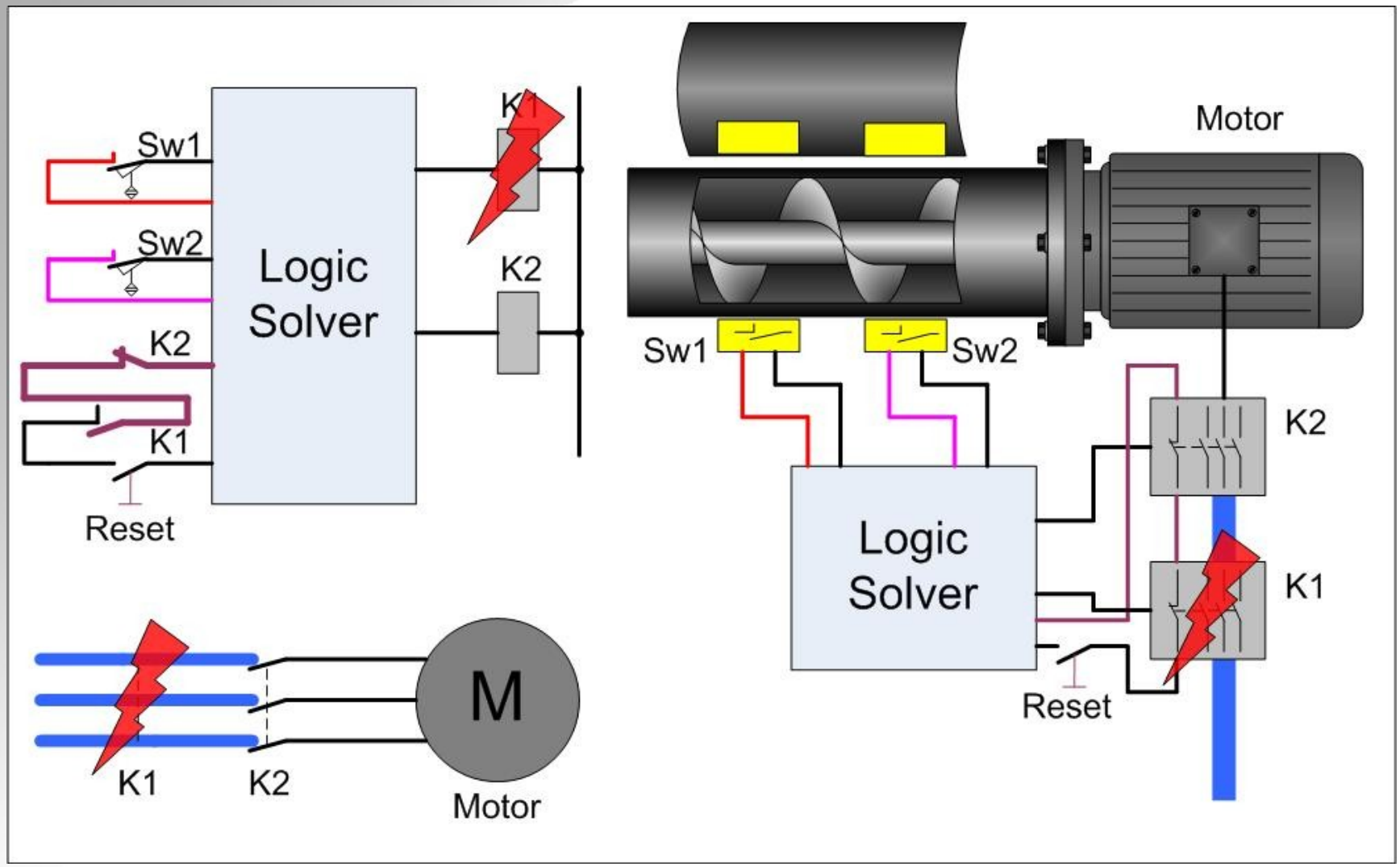
SAGE AUTOMATION

Category

4

What are these things called categories?

Category 4 – Contactor Fault



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