

Become a Motor Management Expert

e-Guide | EcoStruxure | Machine

Start



Purpose of the

e-Guide

Experience Schneider Electric's complete Motor Management approach and solutions with our digitized tools, e-learning modules, and more.

We will guide you at every step of the way through the selection and design phases of our Motor Management solutions so that you can benefit today.



Life Is On

Schneider
Electric

E-GUIDE

Machine

*A complete journey to become
a Motor Management expert.*



Get the basics

Let's start with the basics of Motor Management as we answer some essential questions, such as: Why are electric motors so critical for industrial machines? What are the main motor applications? What are the Motor Management challenges for industrial machines?

Go

Define Motor Management architecture

Learn to define the most suitable architecture: Optimized, Core, or Digitized, and find the related products.

Go

Know and understand

Explore content and training support available online dedicated to our Motor Management approach and solutions.

Go

Design a solution

Find an easy, efficient, and fast way to design and quote your Motor Management for machines with the digital tools developed by Schneider Electric to support your motor control configuration, solution selection, energy savings, and more.

Go

Discover benefits for Partners

Discover the key benefits of our Motor Management approach for machine builders.

Go



Go further

Enhance your technical skills with our extensive range of case studies, technical articles, and white papers written by our Motor Management experts.

Go

Design a solution

Leaflets in PDF (*promotional, catalog...*)

- [Explore the complete TeSys GV range](#)
- [How to "Ecodesign" your pump motor control system](#)
- [How to design optimized contactor assemblies fast](#)
- [How to choose the contactors for elevator machinery](#)
- [How to select the motor starter for your HVAC equipment](#)

Digitized tools for designing a solution

- [EcoStruxure Motor Control Configurator](#)
- [Modicon PLC Configurator](#)
- [Digital-Catalogue](#)

Must see



[Discover EcoStruxure Motor Control Configurator](#)

[Discover Modicon PLC Configurator](#)



PDF leaflet



Video



On-line course



Blog

Go further

Application leaflets

- [Start smart. Run smart. With TeSys motor controls.](#)
- [The new digital load management system that drives productivity and enables new business models – e-Guide](#)
- [How Embedded Safety Drives and Networked Safety Cut Costs and Boost Productivity](#)

White papers

- [Energy efficiency of machines: the choice of motorization](#)
- [Machine safety: Functional Safety and Implementation of the New Machinery Directive](#)

Blog articles

- [Designing efficient motor control solutions for smarter machines](#)
- [Everything You Need to Know About the Direct On Line \(DOL\) Motor Starter](#)
- [5 Ways That Motor Circuit Breakers Provide Optimal Protection for Motors](#)
- [For Machine OEMs, Digitization-driven Unprecedented Productivity Now a Reality](#)
- [Integrating Motor Control, Automation, and Energy Systems Create More Efficient Plant Operations and Reduce Cost](#)
- [How New Generation Motor Starters are Driving Machine OEM Workplace Efficiencies](#)

"How to" videos



[How to use EcoStruxure Motor Control Configurator for VSD](#)

[How to use EcoStruxure Motor Control Configurator for TeSys Island](#)

[How to improve energy efficiency with motor applications involving flow variation](#)



PDF leaflet



Video



On-line course



Blog

Know and understand

Leaflets in PDF *(promotional, catalog, etc.)*

- [How to protect a machine from malfunctions due to electromagnetic disturbance](#)
- [TeSys Safety Brochure](#)
- [Start smart, run smart, stay smart with TeSys Solutions that switch, protect, control, and monitor motors](#)
- [White paper: Energy efficiency: benefits of variable speed control in pumps, fans and compressors](#)
- [How to ensure the reliability of your contacts](#)

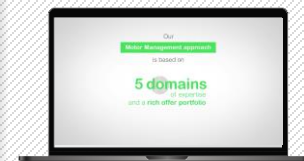
e-Learning for Partners on mySchneider

- [How to meet Motor Management challenges](#) 20 minutes

Must see



[Discover Motor Management approach in a short video](#)



PDF leaflet



Video



On-line course



Blog







Get the basics

Wrap-up of answers to essential questions you probably have:

- Why are electric motors so critical for industrial machines?
- What are the main motor applications?
- What are the Motor Management challenges for industrial machines?

[Go](#)

Other assets

-  [5 reasons system integrators should upgrade their motor starters](#)
-  [Coordinated motor starters: the right choice for reduced downtime and increased safety](#)
-  [Motor Protection: 5 Reasons to Choose Circuit Breakers Over Fuses](#)
-  [Energy efficiency of machines: the choice of motorization](#)

E-Learning for Partners on mySchneider

-  [From Electric Motor to Motor Applications](#)  20 minutes

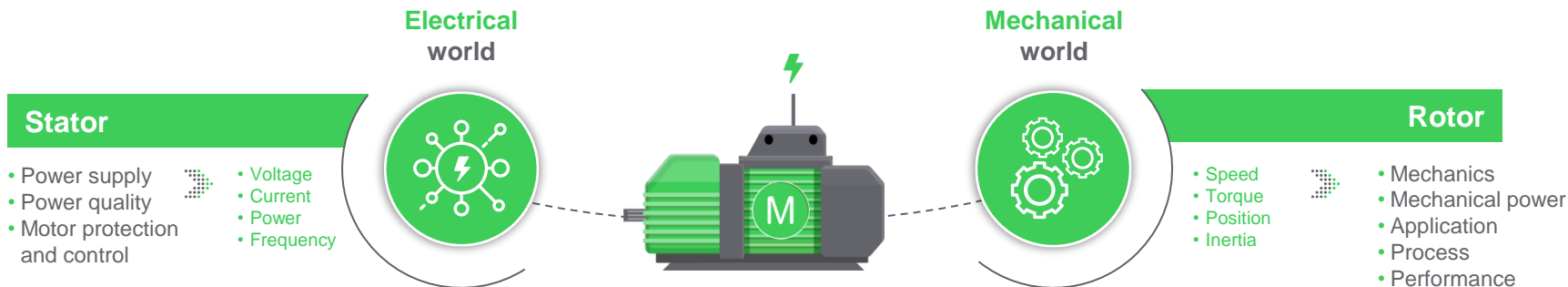
[PDF leaflet](#)[Video](#)[On-line course](#)[Blog](#)

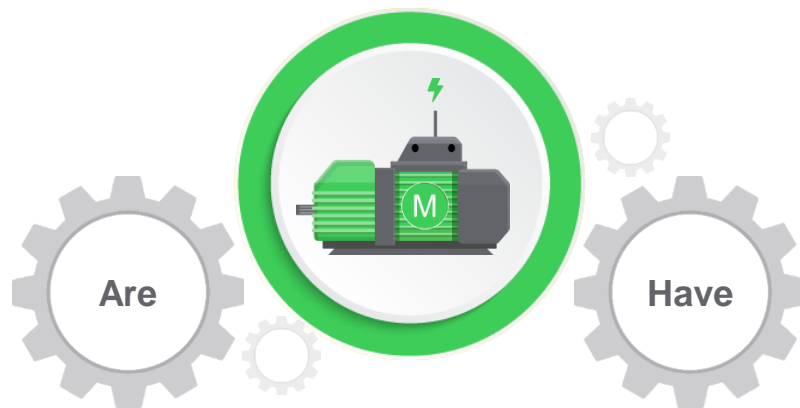


About electric motors



Electric **(M)**otors are the **connection** between **two worlds**





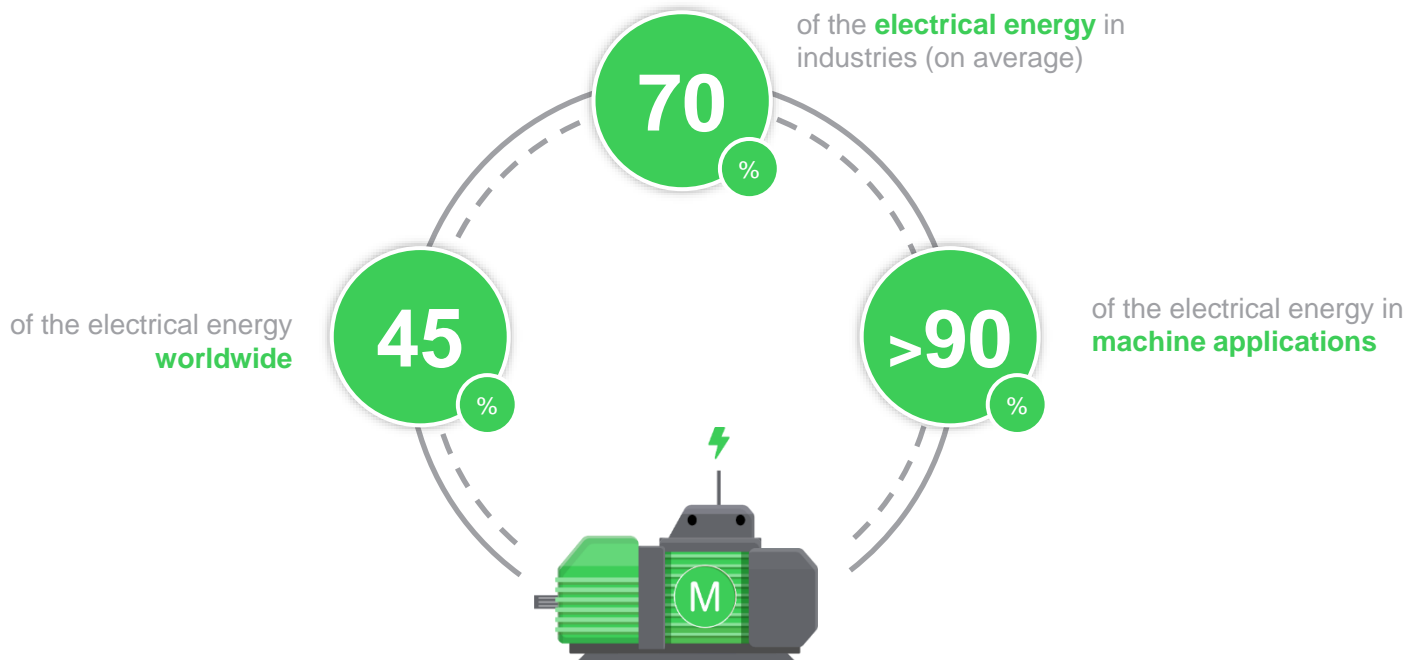
Everywhere in machines:

- Refrigeration
- Pumping
- Ventilation
- Conveyor
- Air compressor
- Material handling
- And more

Influence and impact on:

- Continuity
- Productivity
- Load performance
- Efficiency
- Safety
- And more

Electric otors use:



Electric **M**otors are major energy consumers





Electric motors are
**one of the highest-priority pieces
of equipment for monitoring
and maintenance**





[Back](#)

[Next](#)

[Get the basics](#)

[Architectures](#)

[Know and Understand](#)

[Discover benefits for Partners](#)

[Design a solution](#)

[Go further](#)



About motor applications



Motor applications for industries **are versatile**



Machine

- Material handling machines
- HVAC
- Cranes and hoists
- Packaging machines
- Conveyors
- Lifts and escalators
- Pumps



Process

- Pumps
- Crushers
- Milling machines
- Conveyors
- Extruders



Buildings

- Air ventilation
- Gas compression
- Pumps
- Chillers



Transportation

- Tunnel ventilation
- Sludge pumps
- Sewer system pumps



Marine

- Marine propulsion
- Pumps
- Winches

Key applications per segment



Material handling

- Belt conveyor, dish conveyor belt, ejector, baggage reclaim
- Telescopic belt conveyor, downstream conveyor line, cross-belt conveyor line, DWS balance wheel line
- Hoist, piler, palletizer
- Pallet line, transplanter, hanging conveyor line
- Roller, AGV (Automated Guided Vehicle) / RGV (Rail Guided Vehicle)



Pumping

- Booster pump
- Irrigation pump
- Jack pump
- Mud pump
- Circulator pump
- Water feeding pump
- Dosing pump



HVAC

- Chiller compressor, circulation pump, condenser, cooling tower fan
- Supply, return, exhaust fan
- Smoke exhaust fan, stairway pressurization fan
- Boiler burner, circulation pump



Material working

- Lathe, drill press, milling machine, grinder, plainer machine, electric discharge machine
- Punching (pressing), shears bed, forged bed



About Motor Management





Challenges
for Motor Management
**differ from those for
electrical distribution.**

Motor Management

challenges

=



Safety

+



Efficiency

+



Maintenance

[More](#)



Safety



- **Design emergency stop** according to stop category to avoid accidents
- **Choose proper electrical protection** to avoid device damage and human injury
- **Comply with safety standards and certifications** for Motor Management



- **Define the adequate motor solution** to maintain productivity and uptime
- **Avoid premature aging** by limiting the mechanical stress on start-up
- **Improve energy efficiency** for applications with flow variation

Efficiency

Maintenance



- **Avoid unexpected downtime** with advanced motor control solutions
- **Properly schedule maintenance** by service and digital motor solution
- **Embrace proactive maintenance** by integrating pre-alarm function



Motor Management is
a **specialist business** where
expertise makes the difference









Discover benefits for Partners

Let's explore the key benefits of our Motor Management approach for machine builders.

Go

Leaflets in PDF (promotional, catalog, etc.)

-  [How new motor controllers optimize plant costs and efficiency](#)
-  [TeSys IE4 fully compliant Whitepaper](#)
-  [TeSys motor starters - Promotional leaflet panorama](#)
-  [Understanding smart machines: How they will shape the future](#)

Videos

-  [Motor Management solutions](#)



PDF leaflet



Video



On-line course



Blog

Motor Management for Machines approach

by Schneider Electric™ is based on:



Asset management

Advanced motor control

Expert services


Advanced motor protection

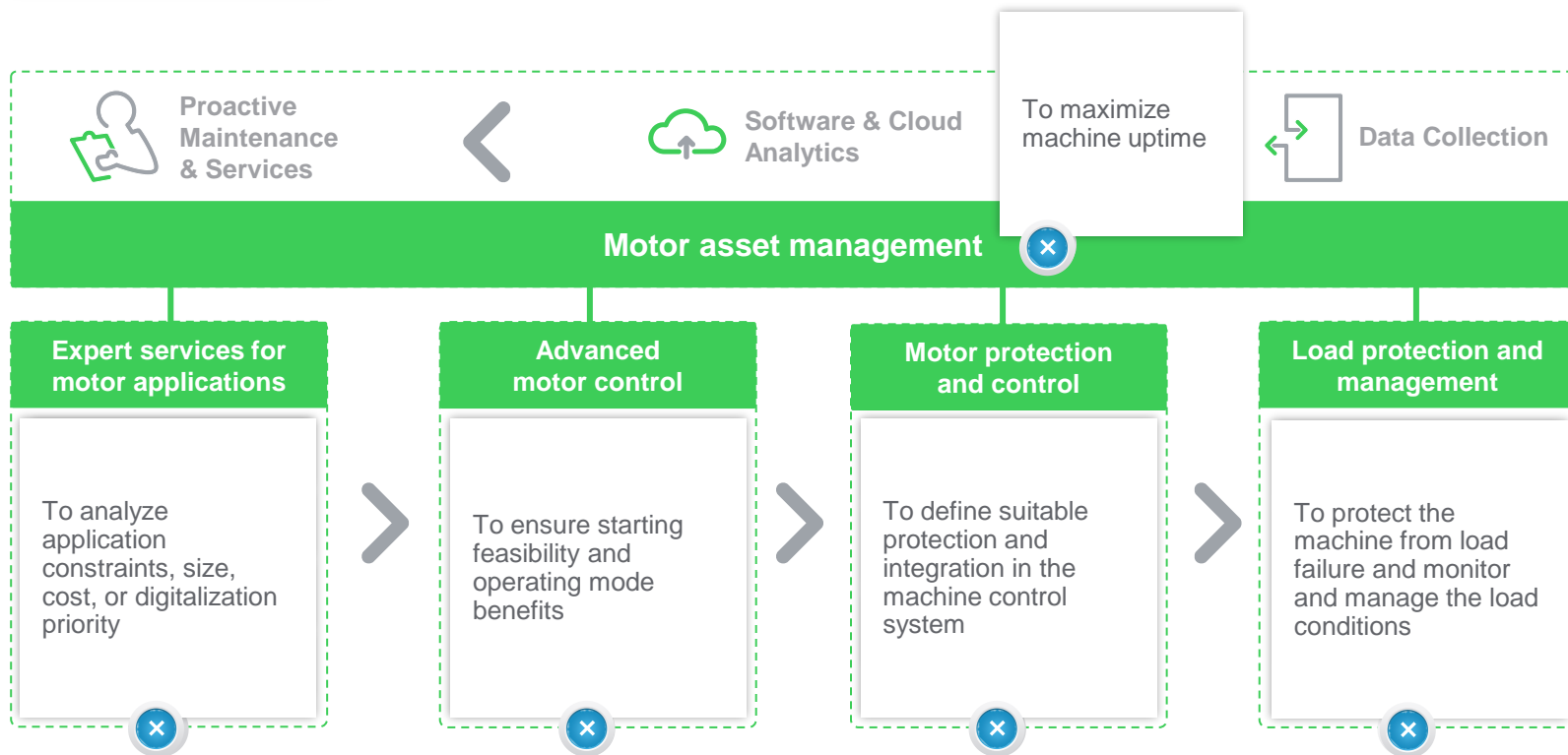
Load protection and
management

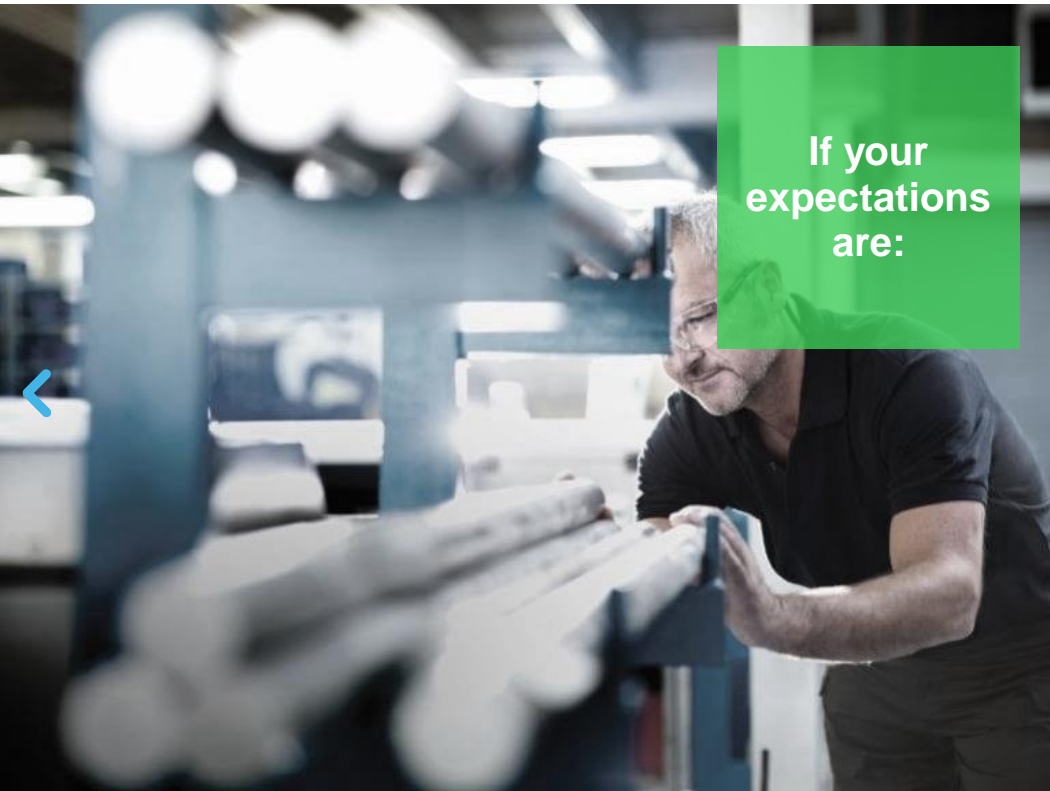
5

domains

Motor Management Portfolio

Click on  to find out benefits for each domain





If your
expectations
are:

Safety

Efficiency

Digitalization

Resiliency



Schneider Electric's
Motor Management approach
is made for you!

With our Motor
Management
solutions, **you**
can achieve:

Up to
30%

time-to-market savings **with properly
engineered and digitalized Motor
Management solutions.**

Up to
100%

safety standard compliance and machine
certification.

Up to
30%

reduction of energy consumption for variable flow
applications with **substantial environmental
impact reduction.**



Improved productivity and energy efficiency thanks to Digital Services & Analytics



EcoStruxure™
Asset Advisor



EcoStruxure
Machine SCADA
Expert



EcoStruxure
Machine Expert

Motor Management for machine builders:

Substantial support to address your main challenges



**Design and
Engineering**



Benefits

Integration



Benefits

**Commissioning
and Operation**



Benefits



Design/Engineering



Gain time in design and selection routines to build a complete Motor Management architecture



Be competitive with optimized, fit-to-purpose design of the installation

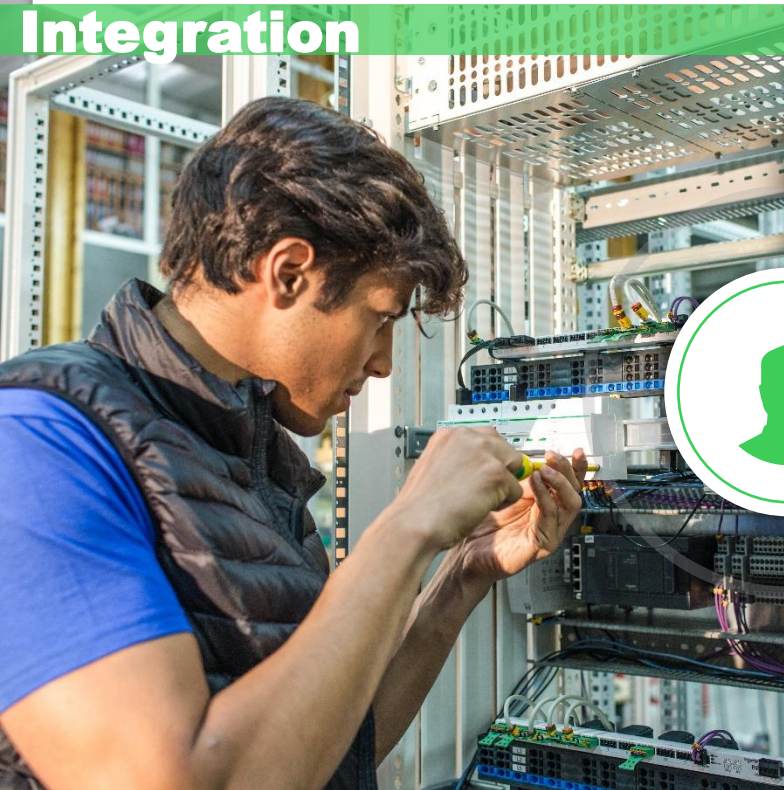


Access and learn the most relevant digital content for a concrete case



Increase efficiency in electrical design for upgrades

Integration



Become an expert in Motor Management with specialization



Be competitive in cost and performance

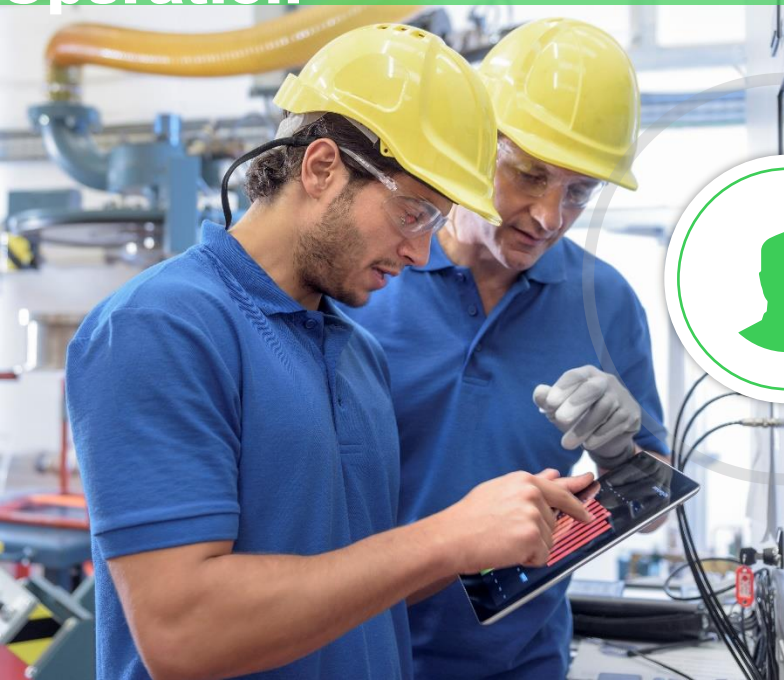


Make the difference through digitalized solutions



Integrate easily with enriched product offerings

Commissioning and Operation



Reduce commissioning time with digital tools



Maximize machine reliability and continuity



Simplify operations with digital connection



Improve energy efficiency (decrease energy consumption and reduce energy bills)



Define Motor Management architecture

Schneider Electric distinguishes
three typical electrical architectures
For **machine** applications

Discover key functions

Play

Optimized

Architecture

Simple machines

Cost and performance

Go

Core

Architecture

Advanced machines

Productivity and modularity

Go

Digitized

Architecture

Complex machines

Connectivity and efficiency

Go

Three distinct machine profiles and motor control scenarios to help you select the best configuration



Simple machines

For cost and performance optimization

[Scenario](#)[Challenges](#)

Optimized



Advanced machines

For productivity and modularity

[Scenario](#)[Challenges](#)

Core



Complex machines

For connectivity and efficiency

[Scenario](#)[Challenges](#)

Digitized



Simple machines

Machine scenario



“

Often stand-alone,
semi-automated machines

”



Typical applications

- Block hoists
- Simple HVAC machines
- Pumps operating with – or possibly without – simple PLC/logic controller in a hardwired automation architecture



Motors & control

Use **1 or a few motors** with direct online (DOL) starters or simple variable speed drives (VSD), depending on the application.



Simple machines do **not perform a mission-critical function.**

Simple machines

Challenges & trends



“

Machines are typically manufactured identically (without additional customization).

”



Machine builders



End-user
challenges

Motor protection is:

- Necessary, but not yet a core feature for machine builders
- Challenging to quickly find the optimal configuration due to a variety of products from multiple providers



Functional
upgrade

- A stronger focus on energy efficiency means speed-controlled drives are increasingly used
- Price-optimized frequency converters without functional overhead are needed

“



Selecting the right solution (with limited functional overhead) should take as little time as possible.



There's no need for extensive flexibility when choosing motor protection. In most cases, simple and cost-optimized solutions are preferred by customers.

Advanced machines

Machine scenario



From 'top' simple machines to machines equipped with a PLC or motion control



Typical applications

- Booster pumping stations
- Standard cranes
- Packaging machines (running 100–120 cycles), such as bagging machines, labelers, or tray packaging machines of low or medium complexity



Motors & control

- **Automation architecture** based on PLCs or motion controllers (for more complex applications)
- **Automation and motor control** devices are in a cabinet or, in the case of distributed architectures, partially in the machine frame or decentralized in small cabinets



Can work **stand-alone** or **in inline** processes with a **limited number of process stages**.

Advanced machines

Challenges & trends



“

From ‘top’ simple machines to machines equipped with a PLC or motion control

”



Machine builders expectations

- **Platform strategies for automation** solutions with variable controller performance
- **Approaches for designing and programming** the whole machine portfolio (within a single engineering environment)
- **Tools to select/commission** the right solution efficiently, easily, and fast



Motors & control

Cabinet-free automation is a trend that has:

- Risen from new modular options
- Boosted the preference for compact motor control solutions with reduced space requirements



Get the **asset management reflex!** This topic is quickly gaining importance. **Energy consumption** should be considered along with machines that are **cost-efficient**.

Complex machines

Machine scenario



“

Generally integrated into fully-automated production processes

”



Typical applications

Non-catalog machines or small volume machines, each partially customized such as:

- Filling, packaging, or assembly machines
- Handling solutions with integrated robotics



Motors & control

Automation architecture is based on a PLC or a logic motion controller and fieldbus communication.

Motor control consists of several asynchronous motors (often in addition to servo axes):

- Some are controlled by DOL or soft starters
- Some by VSDs



Complex machines are characterized by a large number of Inputs/Outputs (I/Os), often working in fully continuous shift operations, monitored with SCADA solutions.

Complex machines

Challenges & trends



“

The digitization trend is gradually improving this situation as more and more asset management solutions appear on the market.

”



End-user expectations

To receive support from machine builders to **maximize OpEx savings** — their ‘top’ purpose.



Machine builders challenges

To meet end-user expectations by **providing machines with maximum availability**.

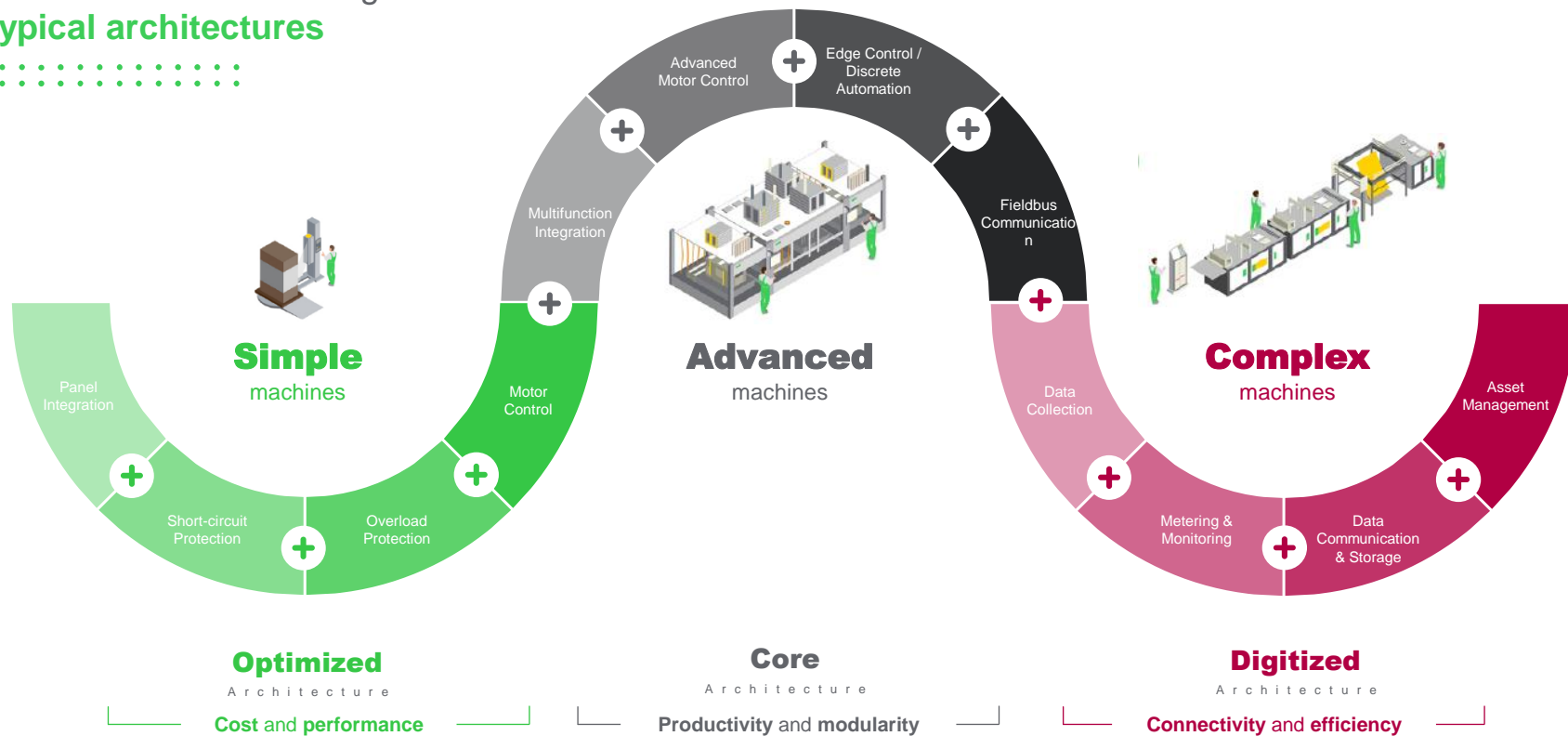
*Note: It can be **challenging for an inexperienced person** to implement condition monitoring and predictive maintenance solutions.*



In most cases, there is **no existing database on the machine level** covering all automation parts and a motor/drive solution.
Creating a database is the first step.

Understand Motor Management

typical architectures



Digitized

Complex machines

Architecture

Offer overview

PANEL OFFER



Spatial SM



Spatial S3D



Spatial CRN



Spatial SF

CLOUD OFFER

EcoStruxure
Asset AdvisorEcoStruxure
Machine SCADA
ExpertEcoStruxure
Machine Expert

AUTOMATION OFFER



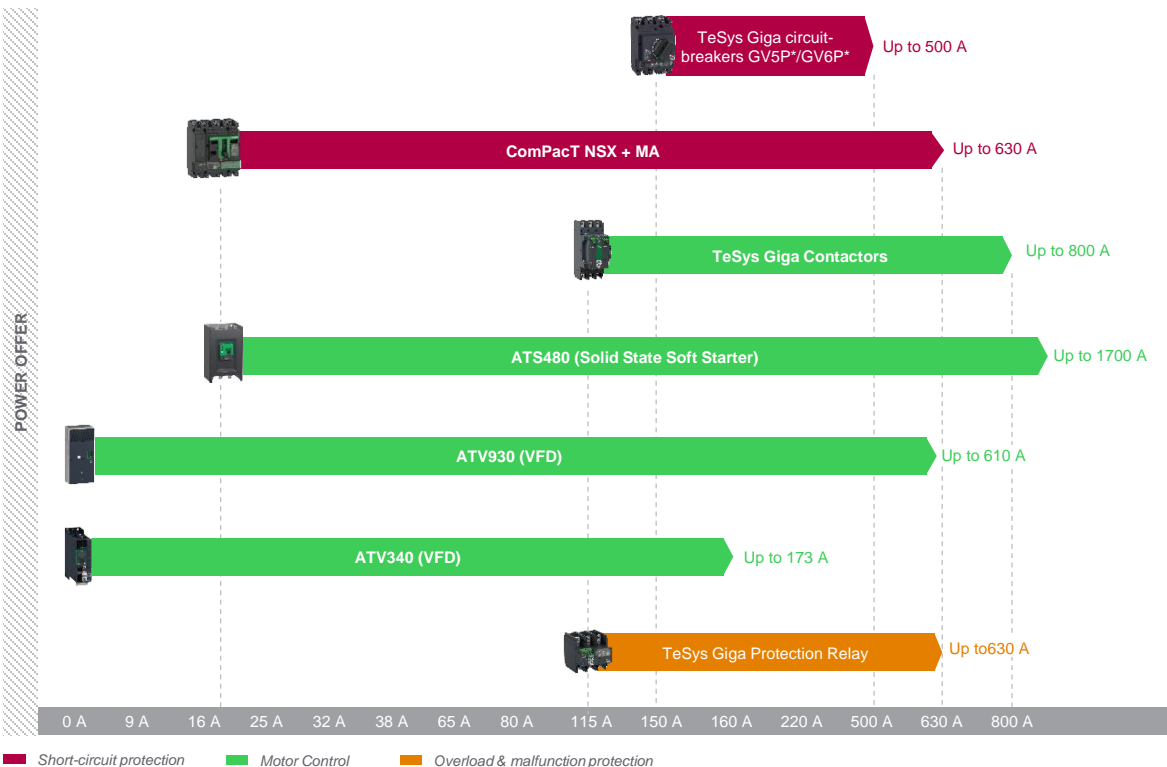
Modicon M241



Modicon M251



Modicon M262



Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

— Process link

— Data link

Digitized

Complex machines

Architecture

Power Feeder (Circuit Breaker)

Energy sensor integrated

Short-Circuit Protection (Circuit Breaker)

Internet of Things (IoT)-enabled offers to seamlessly fit into EcoStruxure architectures

Predictive maintenance based on connectivity

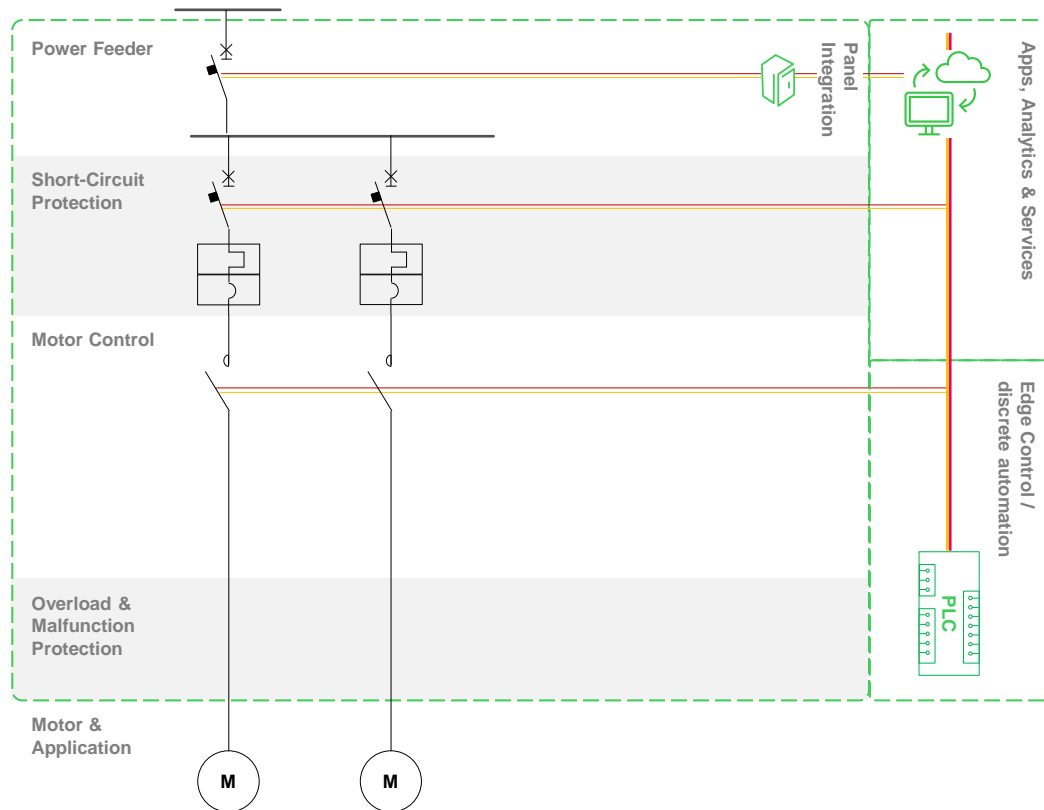
Malfunction protections embedded, such as overload, phase loss, and earth fault protection

Motor Control (Contactor)

Directly operated contactor coil with PLC digital output signal

Advanced contactor protection (coil voltage, poles wear, internal fault, etc.)

Device management (switching cycles count, use duration, pole condition monitoring functions)

**Power range**

< 37 kW

< 400 kW

Machines

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ADVANCED

COMPLEX

Device configuration

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DOL – 2 Devices

VSD

Soft Starter

Display products

OFF

ON

Process link

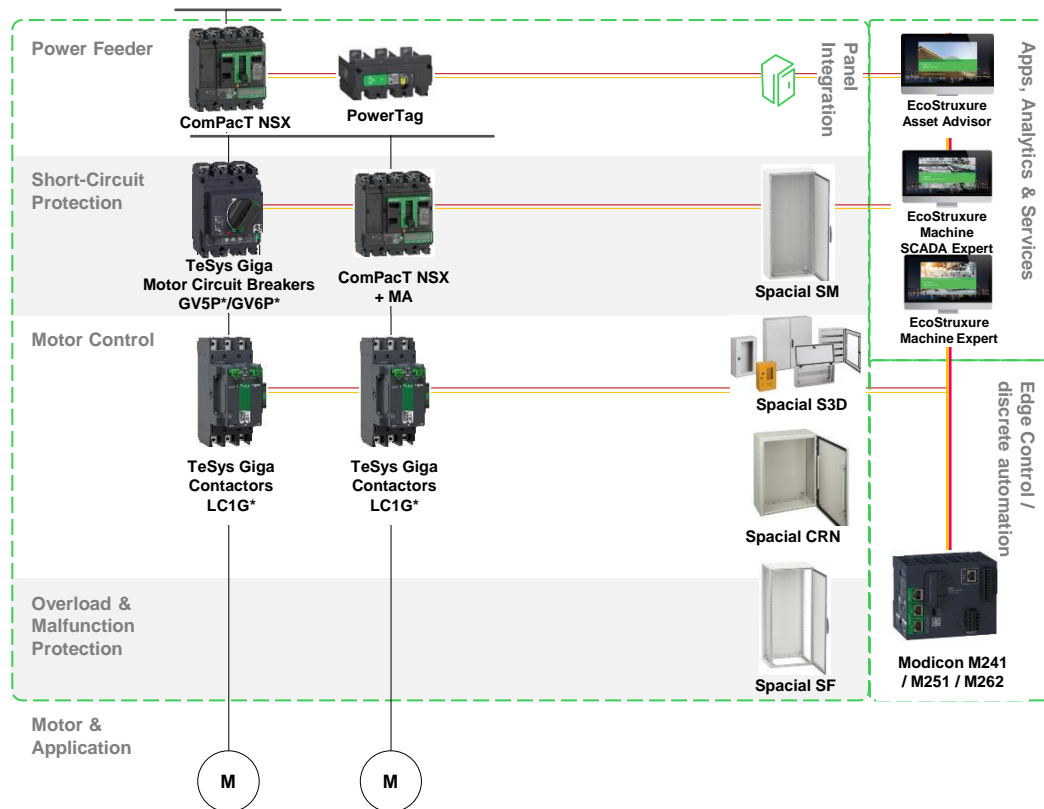
Data link

Digitized

Complex machines

Architecture

Click the *offer icon* for
further details on [se.com](#)



Power range



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< 400 kW

Machines



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Display products



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— Process link
— Data link

Digitized

Complex machines

Architecture

Power Feeder (Circuit Breaker)

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Directly operated contactor coil with PLC digital output signal

Advanced contactor protection (coil voltage, poles wear, internal fault, etc.)

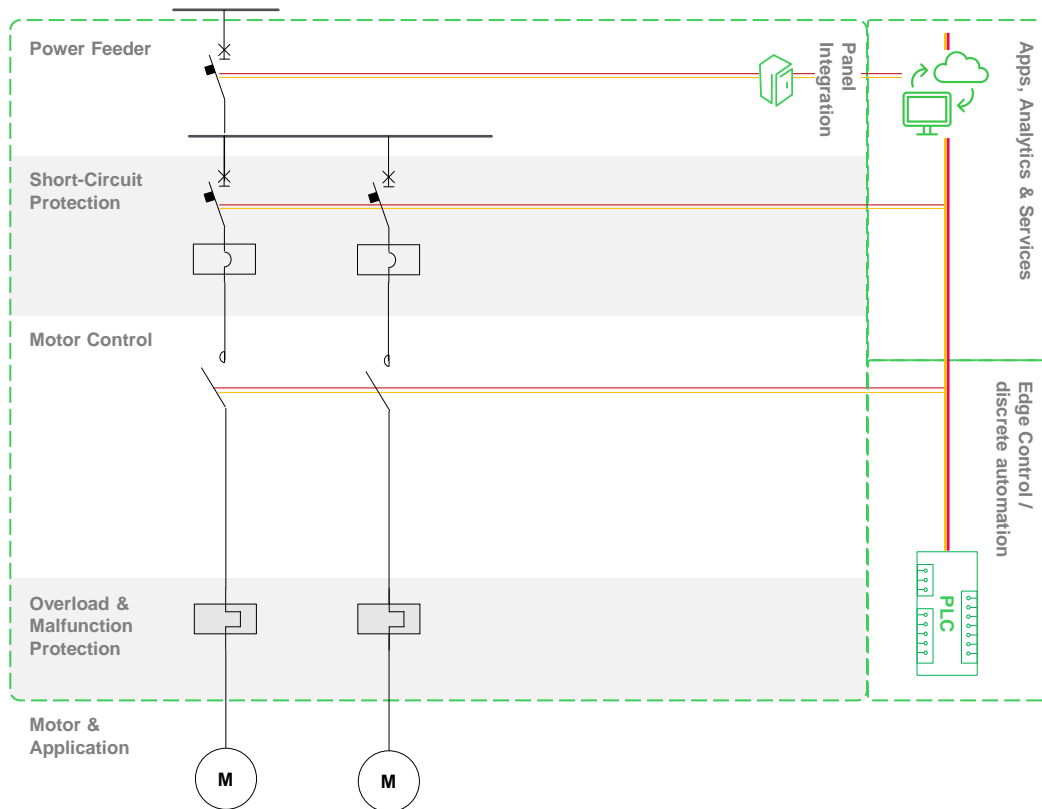
Device management (switching cycles count, use duration, pole condition monitoring functions)

Overload & Malfunction Protection (Overload Relay)

Electronic overload relay

Wide setting range with advanced protections (overload, current unbalance, phase loss, grounding current, etc.)

Continuous monitoring with healthy and alarm indicators

**Power range**

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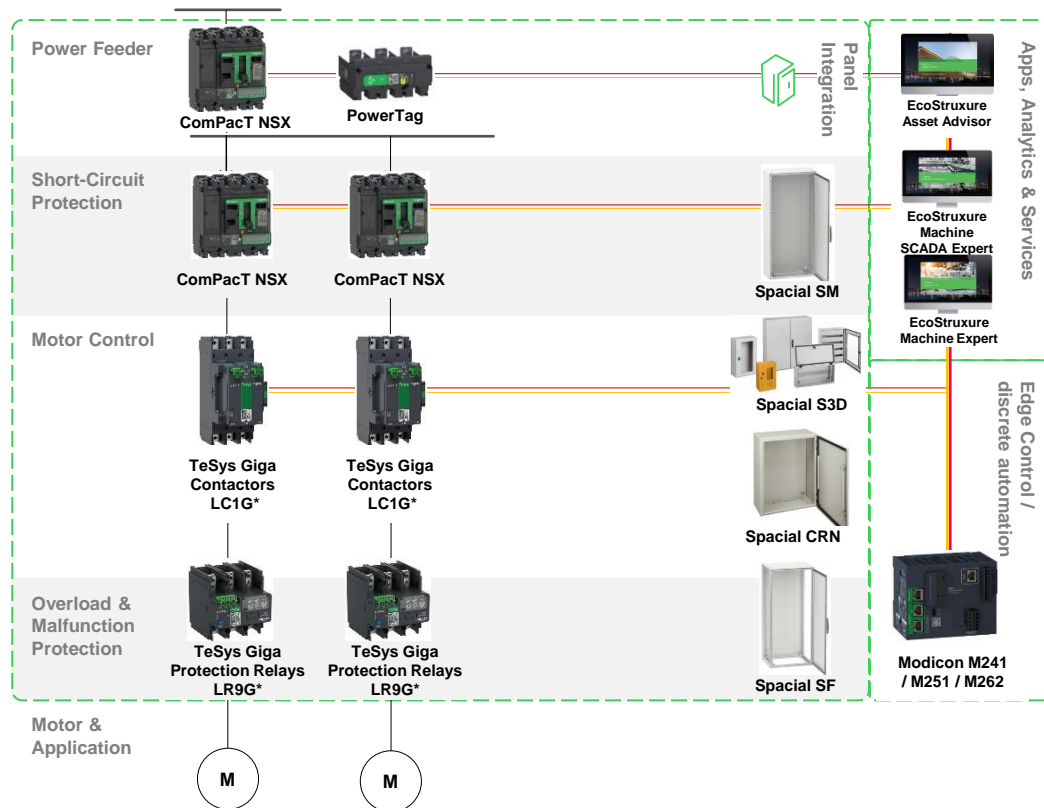
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Digitized

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Complex machines

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Power Feeder (Circuit Breaker)

Energy sensor integrated

Short-Circuit Protection (Circuit Breaker)

IoT-enabled offers to fit seamlessly into EcoStruxure architectures

Predictive maintenance based on connectivity

Motor Control (Variable Frequency Drive)

Advanced motor protection

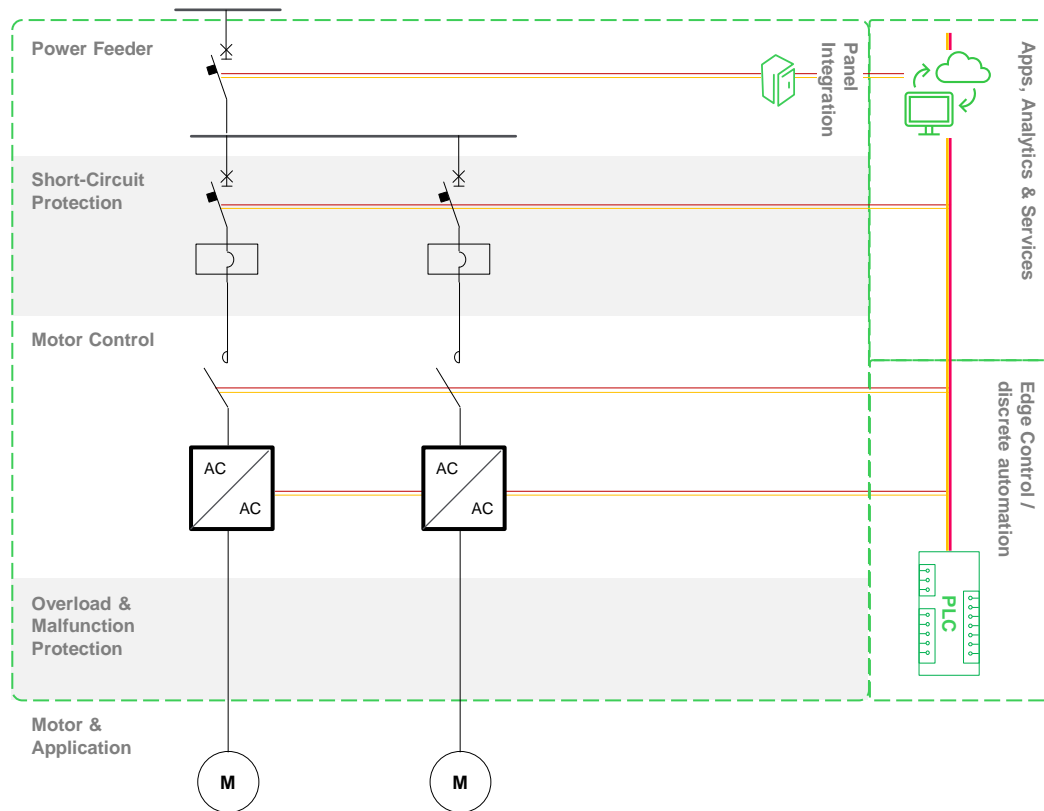
Advanced control performance

Prioritized safety and cybersecurity

Industrial internet of Things (IIoT)-connected drive

Webserver embedded

Data provided about process and service



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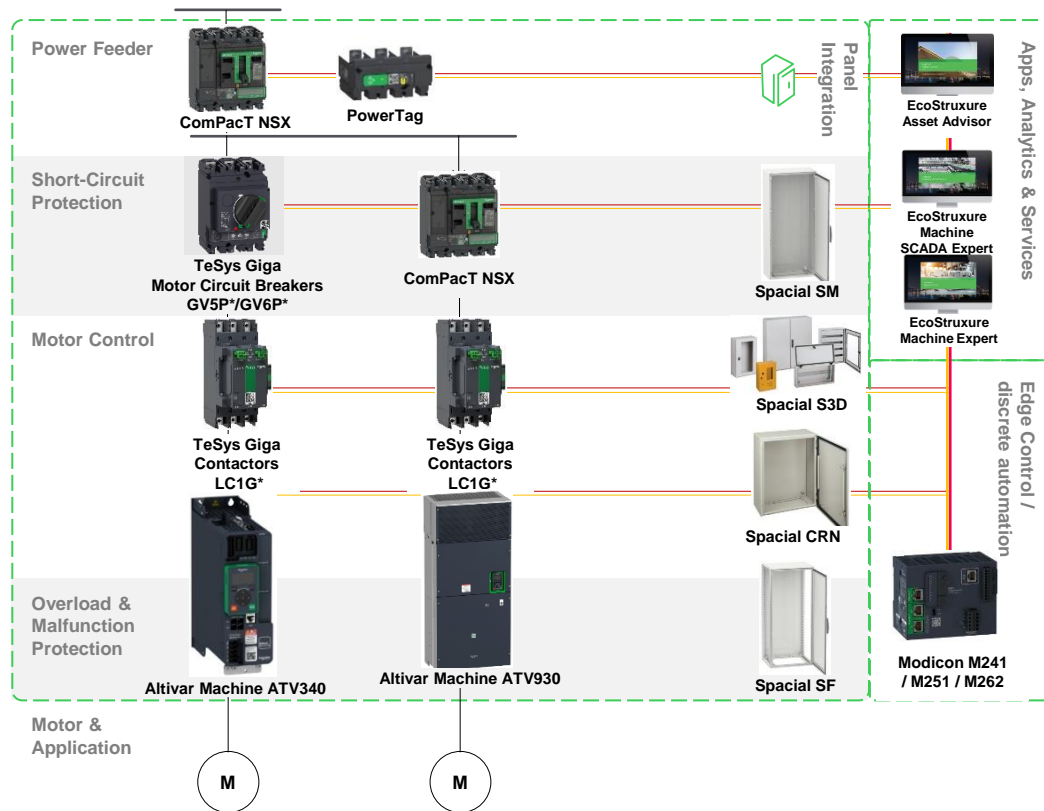
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Motor Control (Soft Starter)

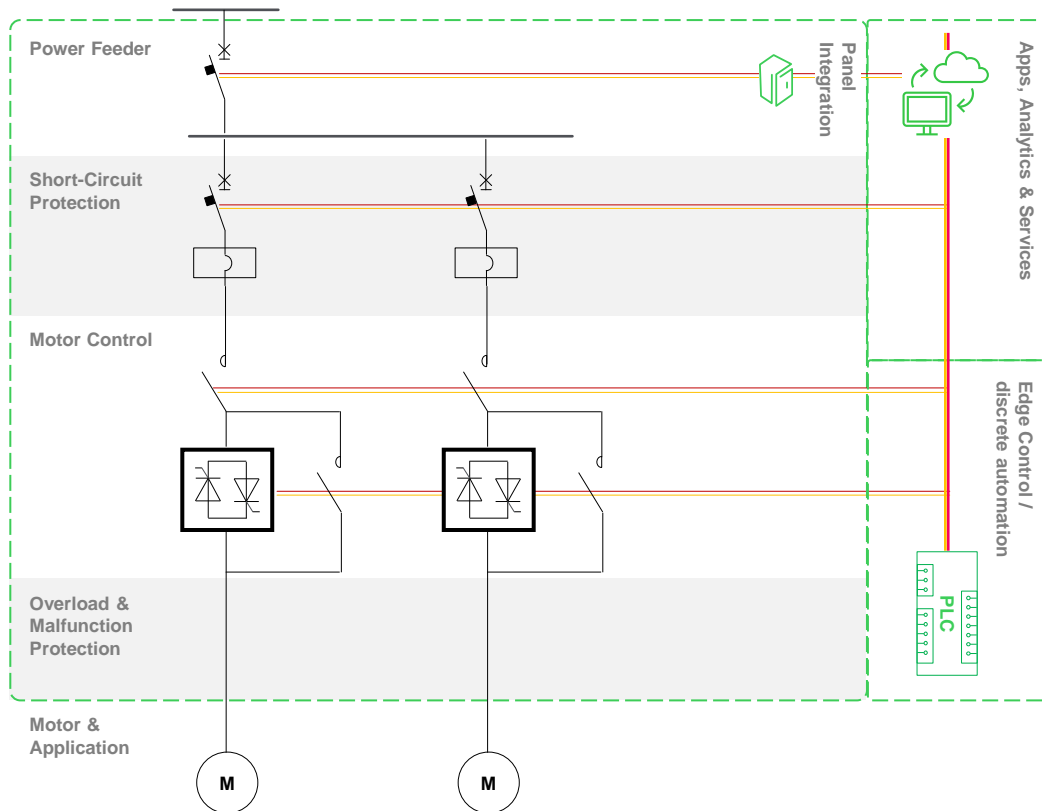
Embedded troubleshooting and digital support

Cybersecurity best practices

Increased continuity of service

Fieldbus adaption

Asset monitoring



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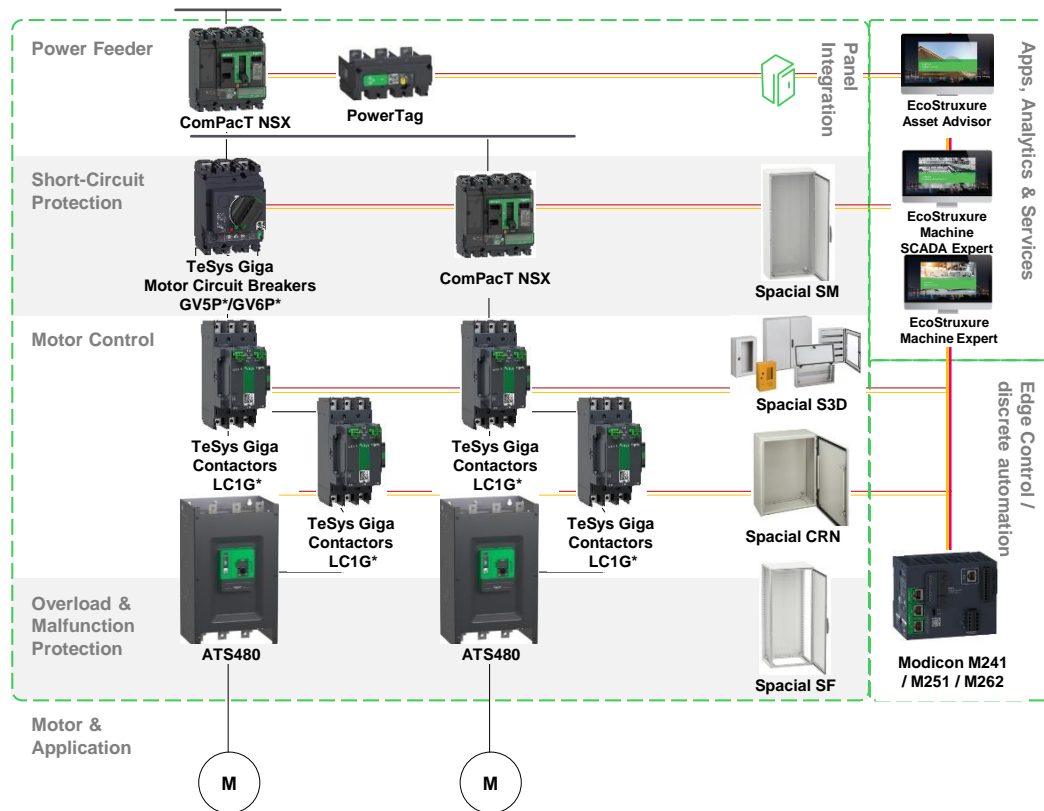
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Complex machines

Architecture

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Core

Advanced machines

Architecture

Offer overview



Spatial SM



Spatial S3D



Spatial CRN



Spatial SF



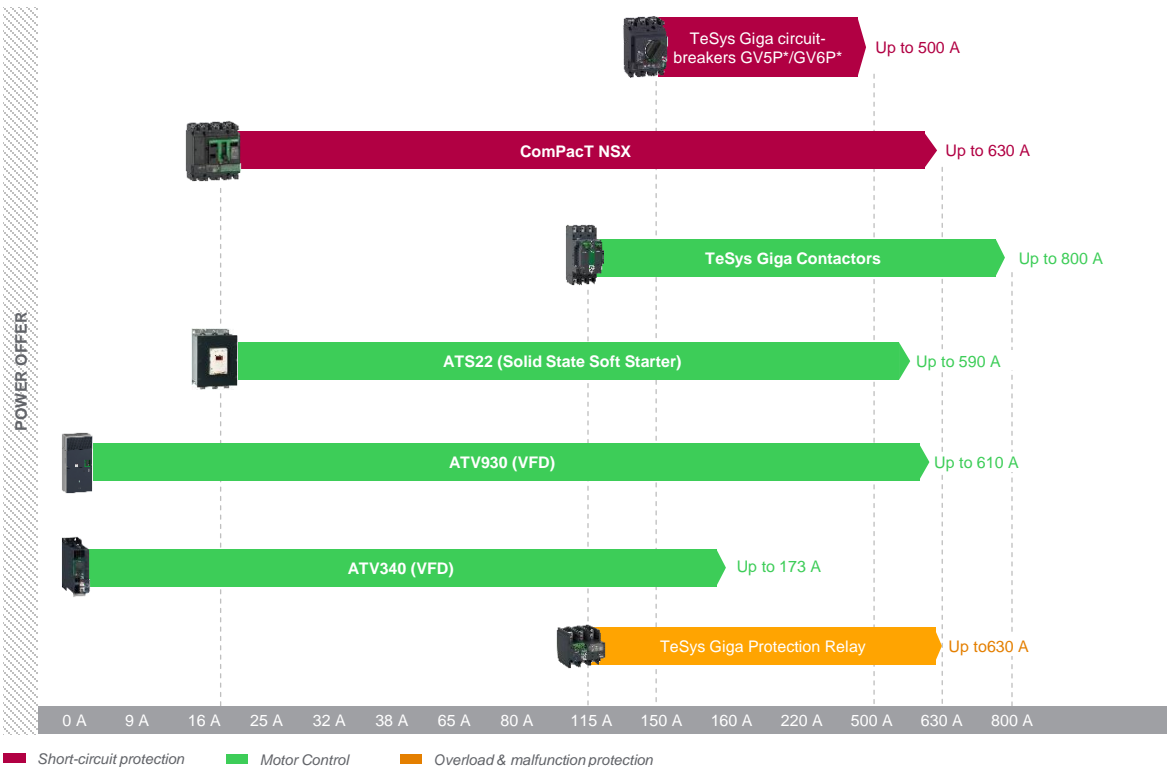
Modicon M241



Modicon M251



Modicon M262



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

— Process link

— Data link

Core

Advanced machines

Architecture

- Power Feeder (Circuit Breaker)**

Ensuring optimized selectivity and coordination

Providing corrective, preventive, and predictive maintenance for asset management

Integrated earth leakage protection and standardized accessories

- Short-Circuit Protection (Circuit Breaker)**

Short-circuit protection and overload protection integrated

Full trip/open/close status monitoring and signal feedback

High breaking capacity and coordination with contactor

Automatic compensation for ambient temperature variations for high reliability

Wide setting for protection functions

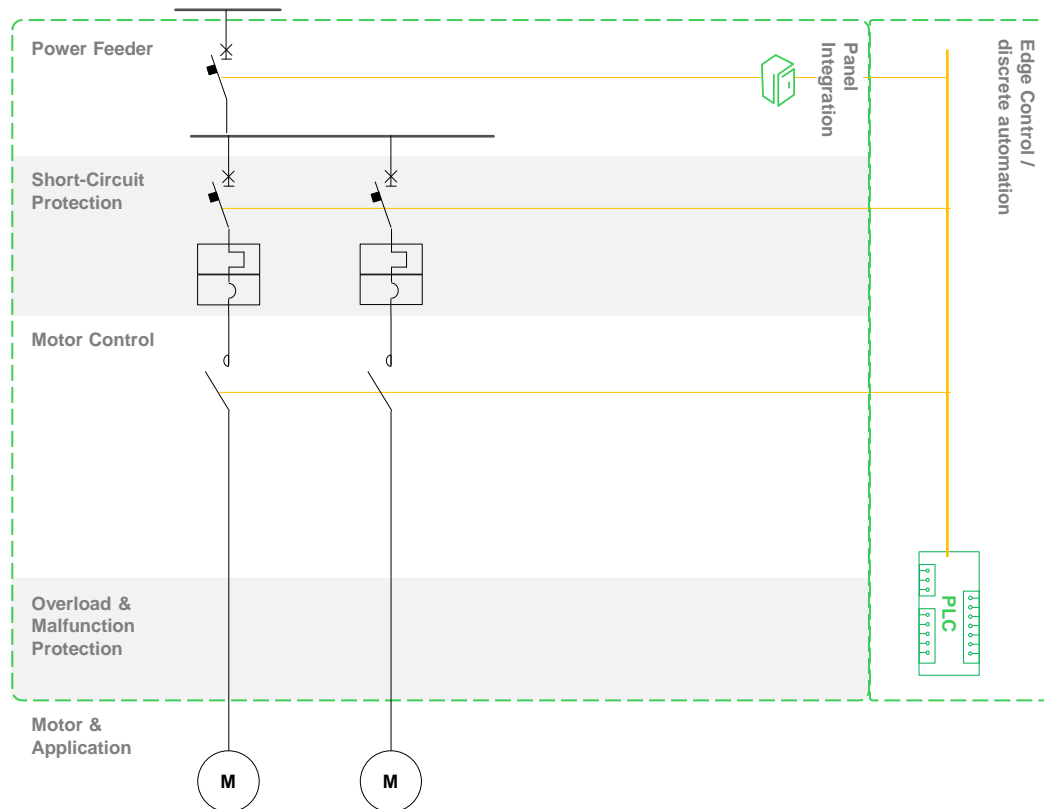
- Motor Control (Contactor)**

Directly operated contactor coil with PLC digital output signal

Advanced contactor protection (coil voltage, poles wear, internal fault, etc.)

High electrical and mechanical lifetime

Low power switching reliability of auxiliary contactor



Power range



< 75 kW

< 400 kW

Machines



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Soft Starter

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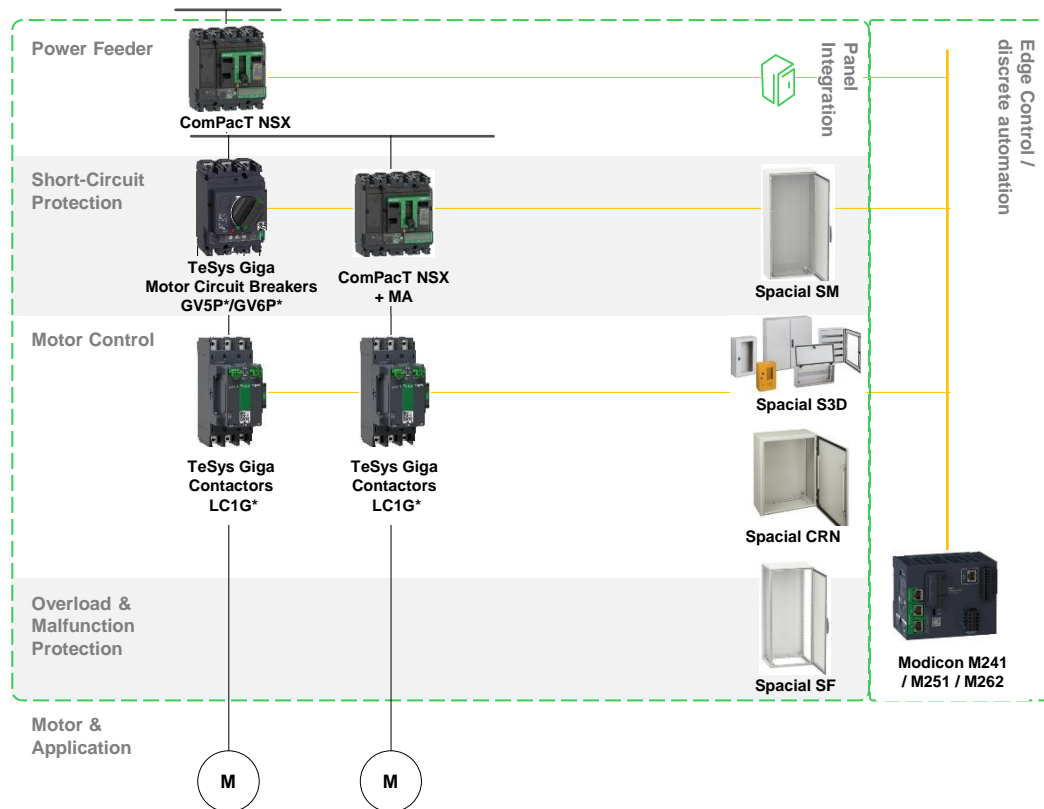
Data link

Core

Advanced machines

Architecture

Click the **offer icon** for further details on [se.com](#)



Power range



< 75 kW

< 400 kW

Machines



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ADVANCED

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Device configuration



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OFF

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Data link

Core

Advanced machines

Architecture

Power Feeder (Circuit Breaker)

Helps ensure optimized selectivity and coordination

Provides corrective, preventive, and predictive maintenance for asset management

Short-Circuit Protection (Circuit Breaker)

Full trip/open/close status monitoring

High breaking capacity and coordination with contactor and overload relay

Motor Control (Contactor)

Directly operated contactor coil with PLC digital output signal

Advanced contactor protection (coil voltage, poles wear, internal fault, etc.)

High electrical and mechanical lifetime

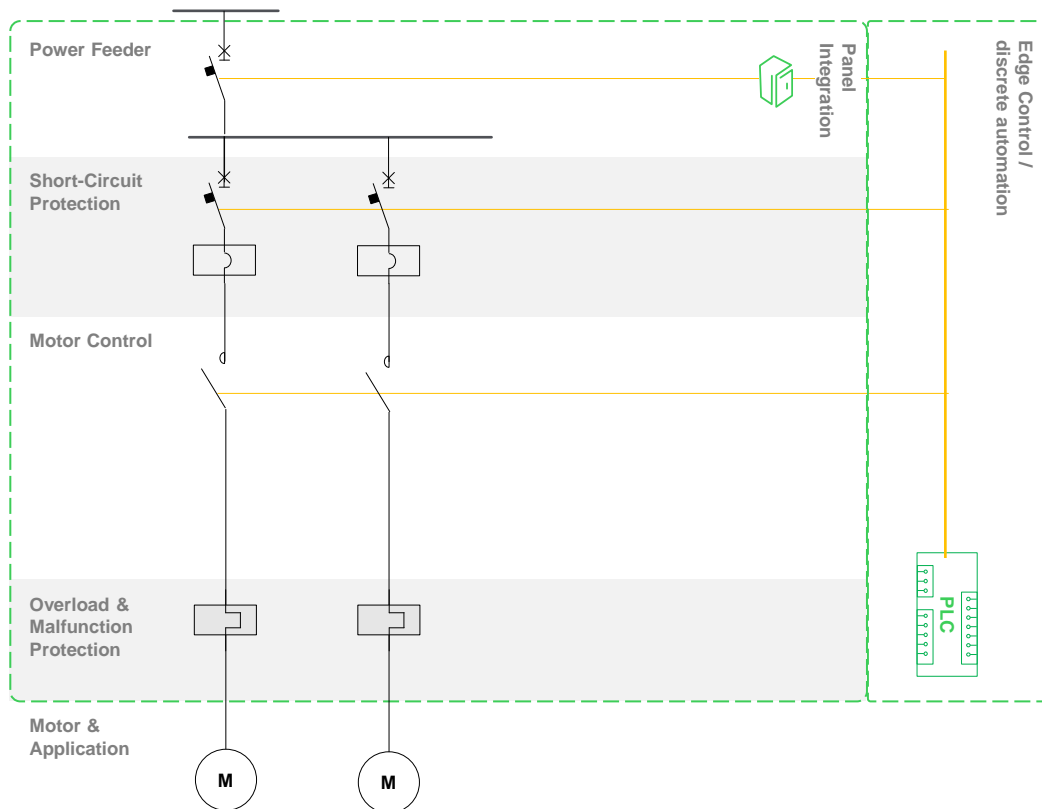
Low power switching reliability of auxiliary contactor

Malfunction Protection (Protection Relay)

Wide setting range with advanced protections (overload, current unbalance, phase loss, grounding current, etc.)

Visible diagnosis indication

Continuous monitoring with health and alarm indicators



Power range



< 75 kW

< 400 kW

Machines



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ADVANCED

COMPLEX

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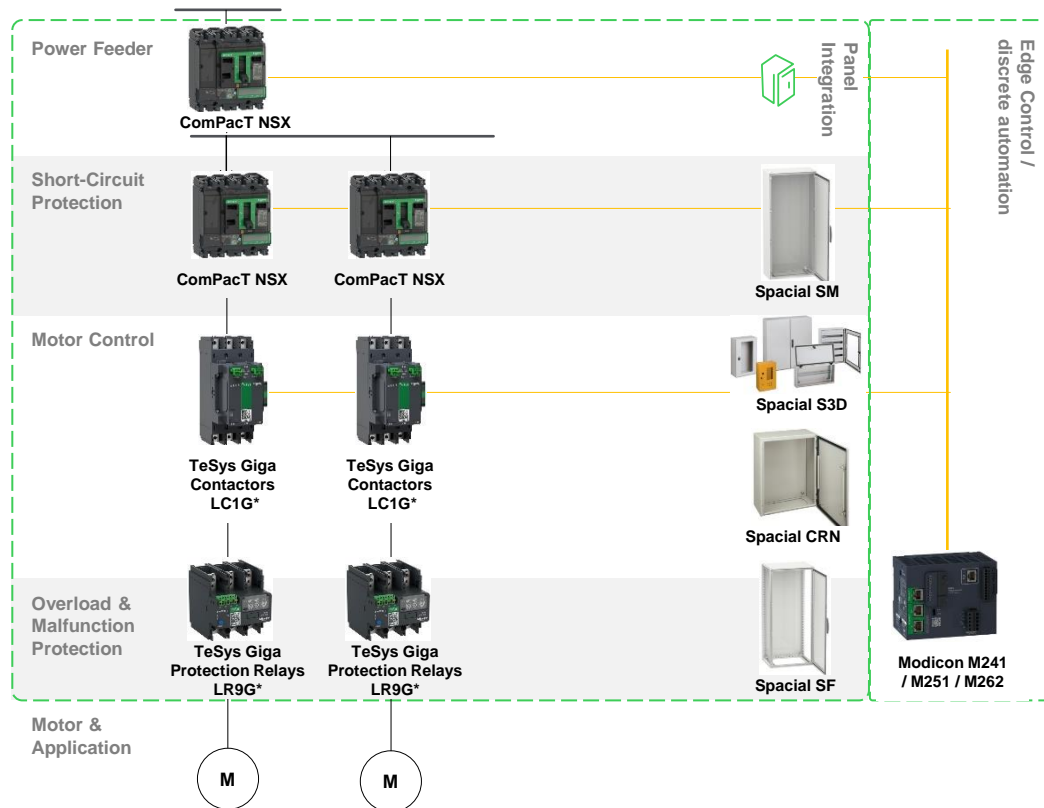
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Core

Advanced machines

Architecture

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Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Core

Advanced machines

Architecture

- Power Feeder (Circuit Breaker)**

Helps ensure optimized selectivity and coordination

Provides corrective, preventive, and predictive maintenance for asset management

Equipped with integrated earth leakage protection and standardized accessories

- Short-Circuit Protection (Circuit Breaker)**

Full trip/open/close status monitoring and signal feedback

High breaking capacity and coordination with contactor

- Motor Control (Variable Frequency Drive)**

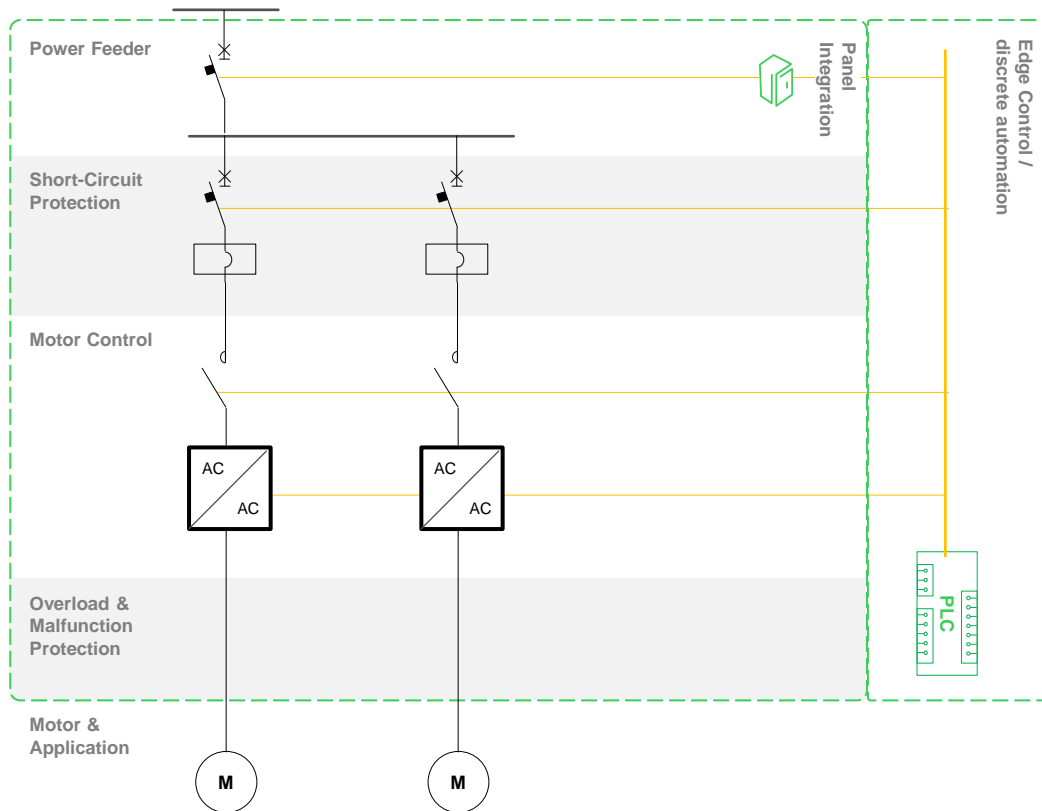
Advanced motor protection

Advanced control performance

Harsh environment performance

Fast machine recovery

Full safety monitoring, including "Safe Torque Off" and four more functions



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

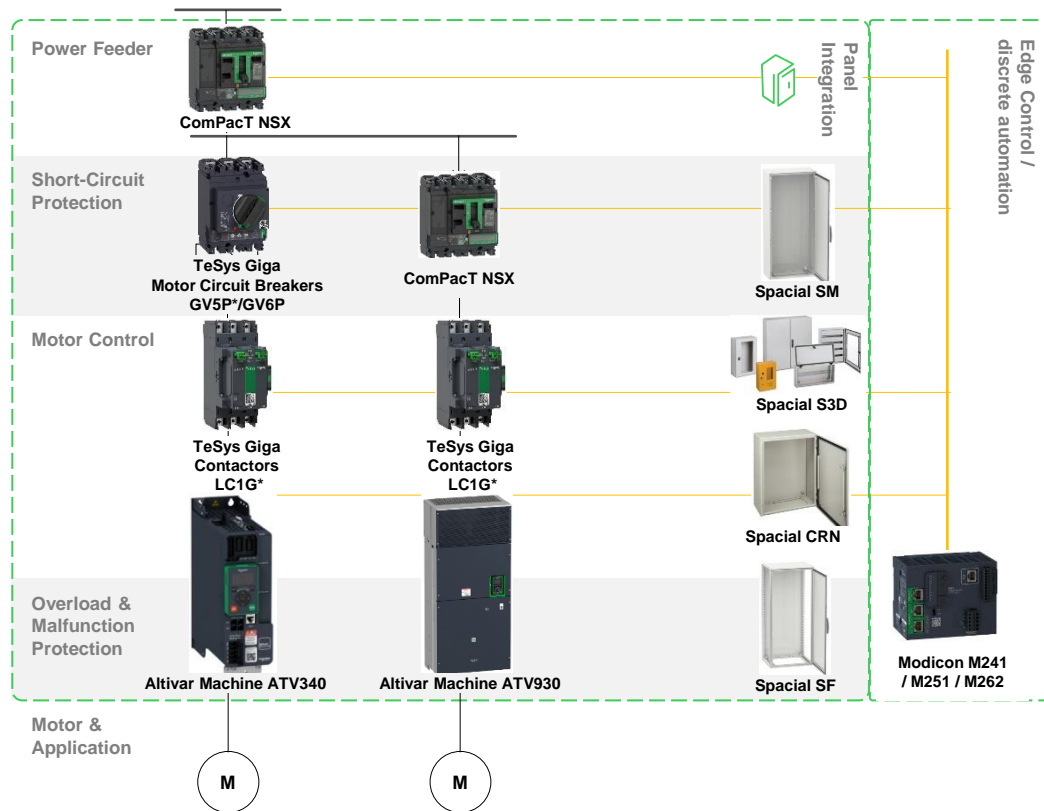
Data link

Core

Advanced machines

Architecture

Click the **offer icon** for further details on [se.com](#)



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Core

Advanced machines

Architecture

Power Feeder (Circuit Breaker)

Helps ensure optimized selectivity and coordination

Provides corrective, preventive, and predictive maintenance for asset management

Equipped with integrated earth leakage protection and standardized accessories

Short-Circuit Protection (Circuit Breaker)

Full trip/open/close status monitoring and signal feedback

High breaking capacity and coordination with contactor

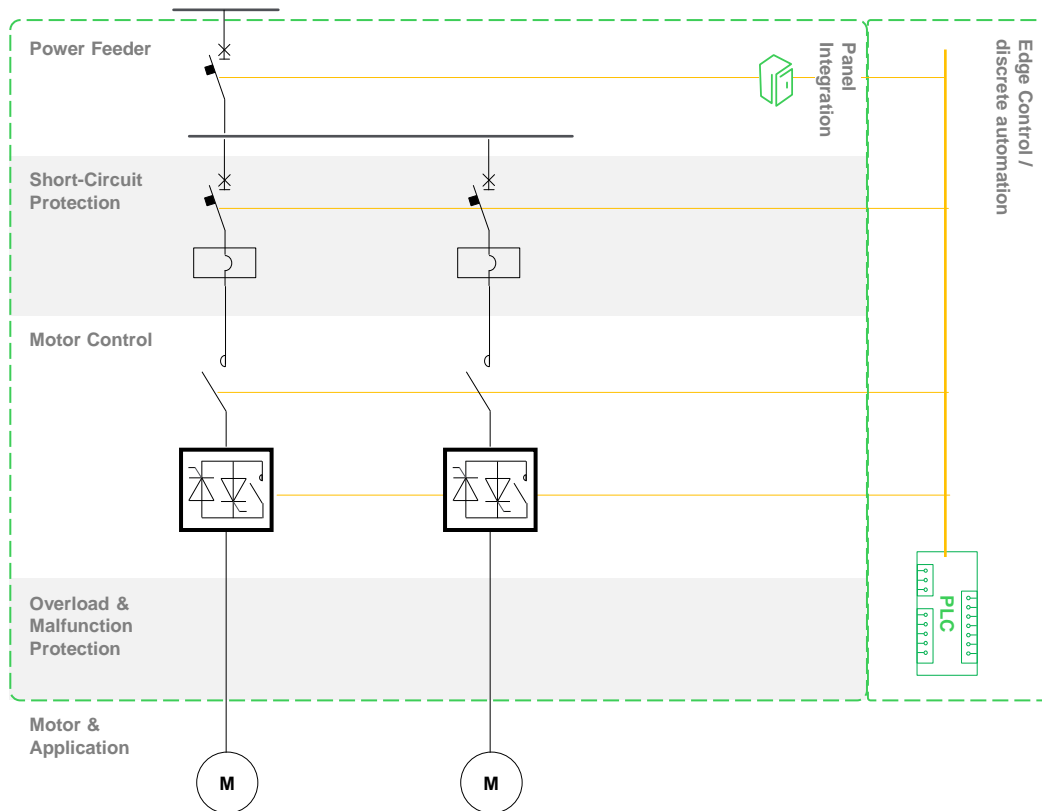
Motor Control (Soft Starter)

Advanced torque control during the acceleration and deceleration phases

Integrated bypass

Complete protection of the motor and the starter

Fieldbus connection



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

Process link

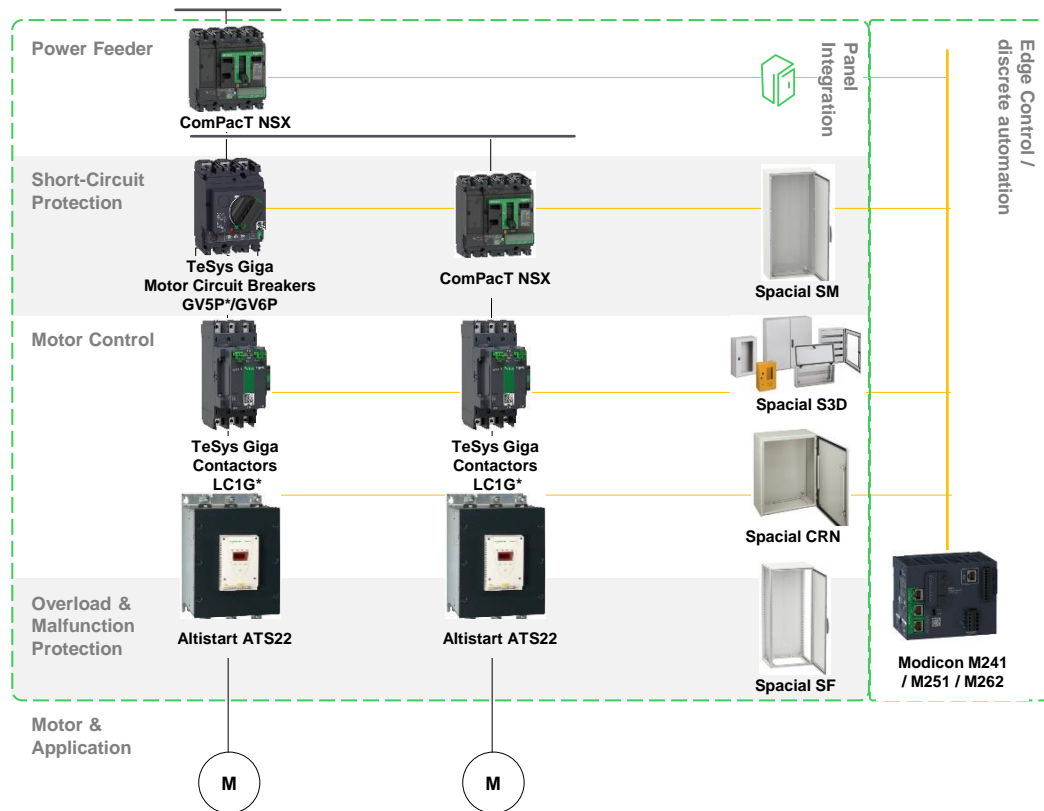
Data link

Core

Advanced machines

Architecture

Click the **offer icon** for further details on [se.com](#)



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Optimized

Simple machines

Architecture

Offer overview



Spatial SM



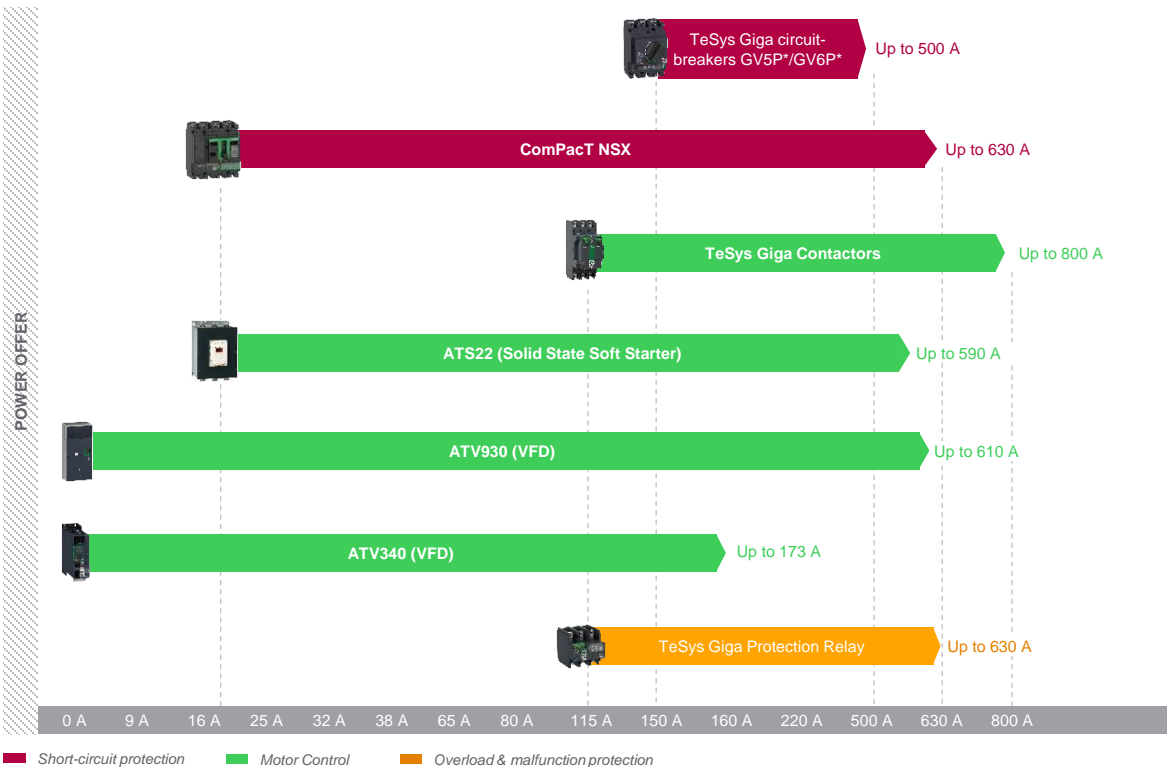
Spatial S3D



Spatial CRN



Spatial SF



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

— Process link

— Data link

Optimized

Simple machines

Architecture

Power Feeder (Circuit Breaker)

Compact size with flexible installation in any position (switchboard/wall-mounted)

Helps ensure optimized selectivity and coordination

Equipped with integrated earth leakage protection and standardized accessories

Short-Circuit Protection (Circuit Breaker)

Integrated with short-circuit protection and overload protection

Compact size, safe and long-lasting power connection

Long operational lifespan

Coordination with contactor

Sends alerts as well as a local indication

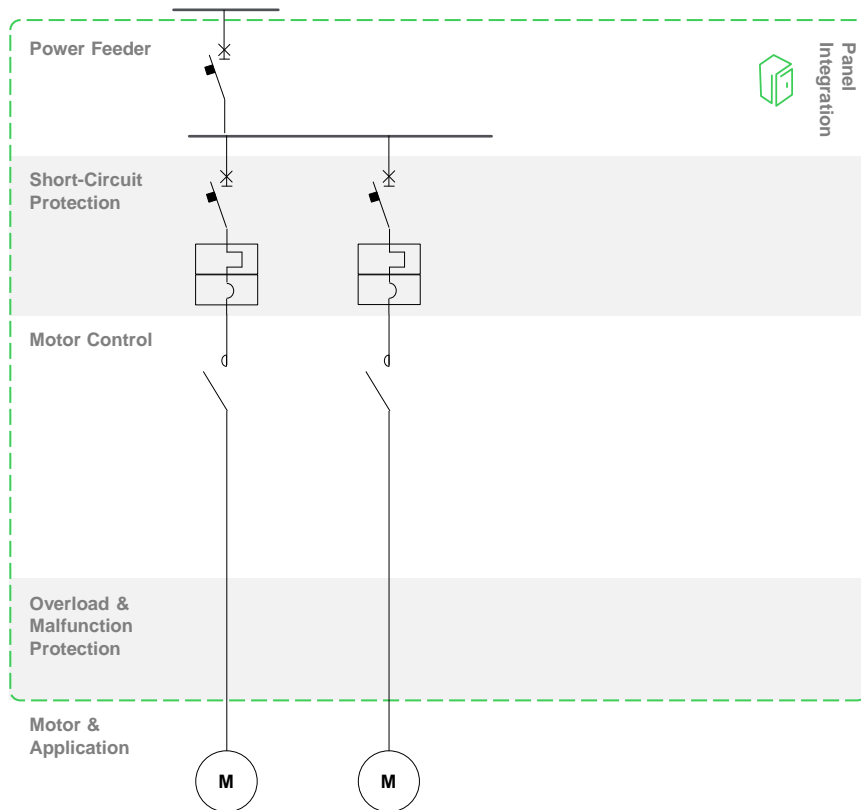
Motor Control (Contactor)

Compact size

Simplified maintenance and optimized installation

Wide voltage control and increased dustproofing

Harsh environment performance



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

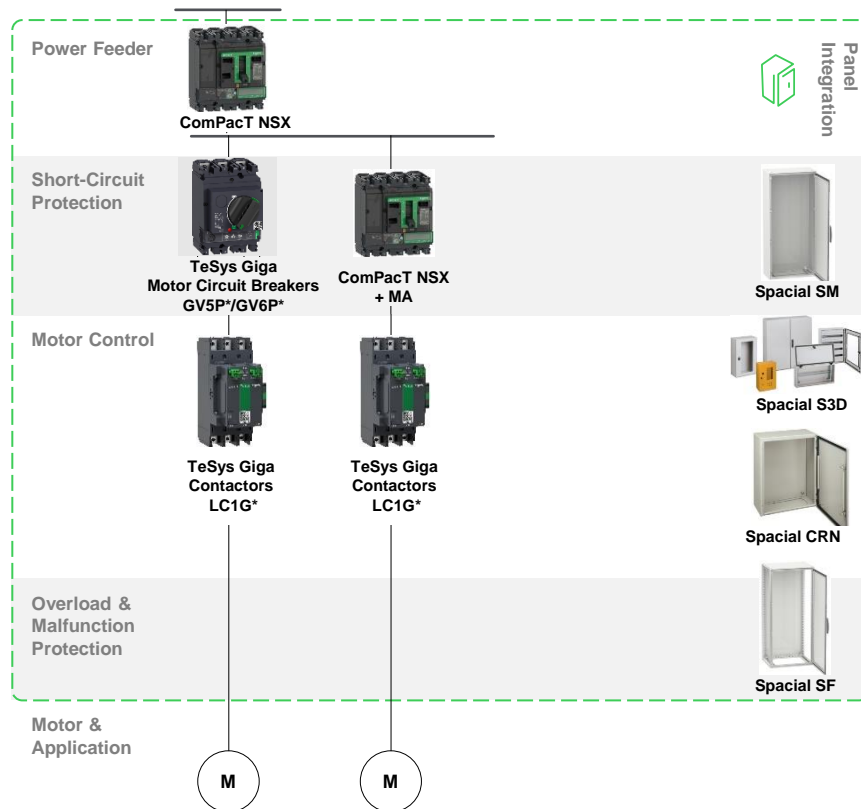
Data link

Optimized

Simple machines

Architecture

Click the *offer icon* for further details on [se.com](#)



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Optimized

Simple machines

Architecture

Power Feeder (Circuit Breaker)

Compact size with flexible installation in any position (switchboard/wall-mounted)

Helps ensure optimized selectivity and coordination

Equipped with integrated earth leakage protection and standardized

Short-Circuit Protection (Circuit Breaker)

Compact size, safe and long-lasting power connection

Coordination with contactor and overload relay

Sends alerts as well as a local indication

Motor Control (Contactor)

Compact size

Simplified maintenance and optimized installation

Wide voltage control and increased dustproofing

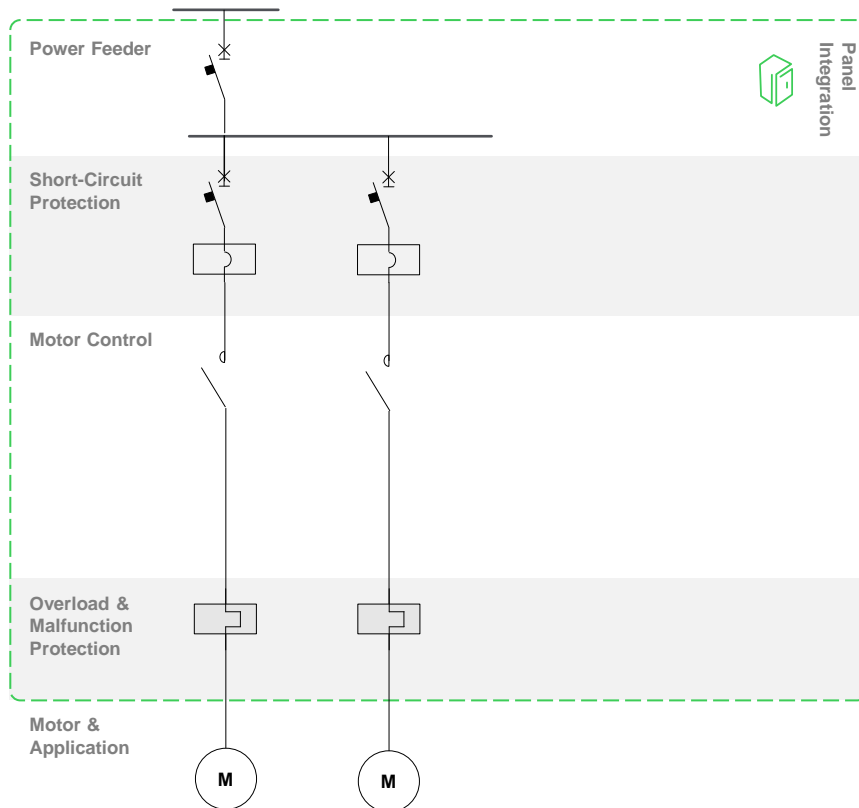
Harsh environment performance

Overload Protection (Overload Relay)

Safe and effective protection

Simple to install and maintenance

Integrated manual-automatic reset



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

Process link

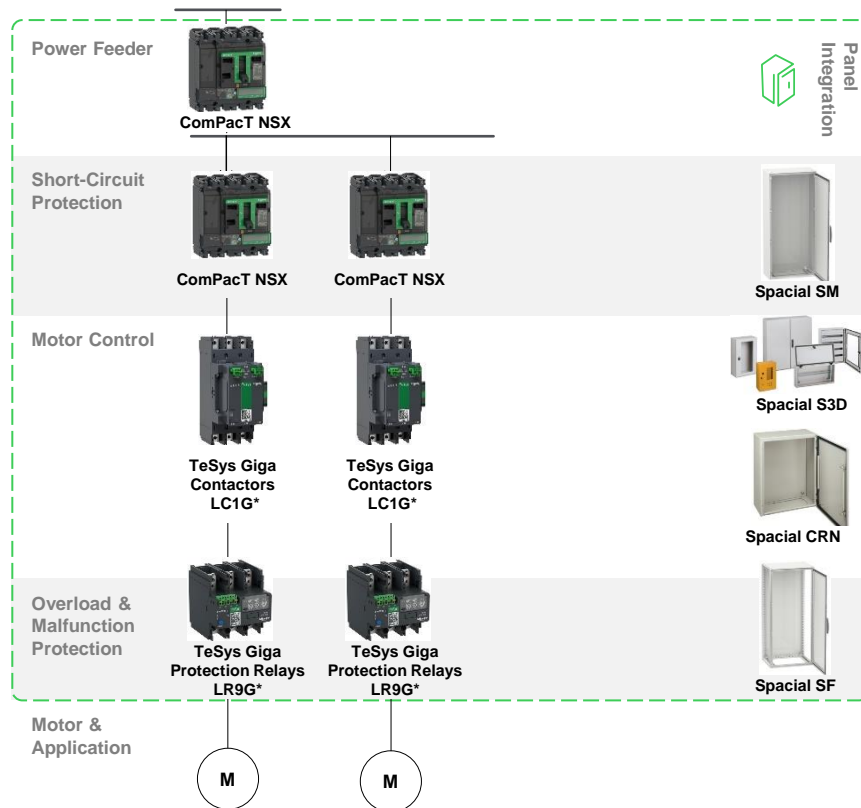
Data link

Optimized

Simple machines

Architecture

Click the *offer icon* for further details on [se.com](#)



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Optimized

Simple machines

Architecture

- Power Feeder (Circuit Breaker)**

Compact size with flexible installation in any position (switchboard/wall-mounted)

Helps ensure optimized selectivity and coordination

Equipped with integrated earth leakage protection and standardized

- Short-Circuit Protection (Circuit Breaker)**

Compact size, safe and long-lasting power connection

Coordination with contactor and overload relay

Sends alerts as well as a local indication

- Motor Control (Variable Frequency Drive)**

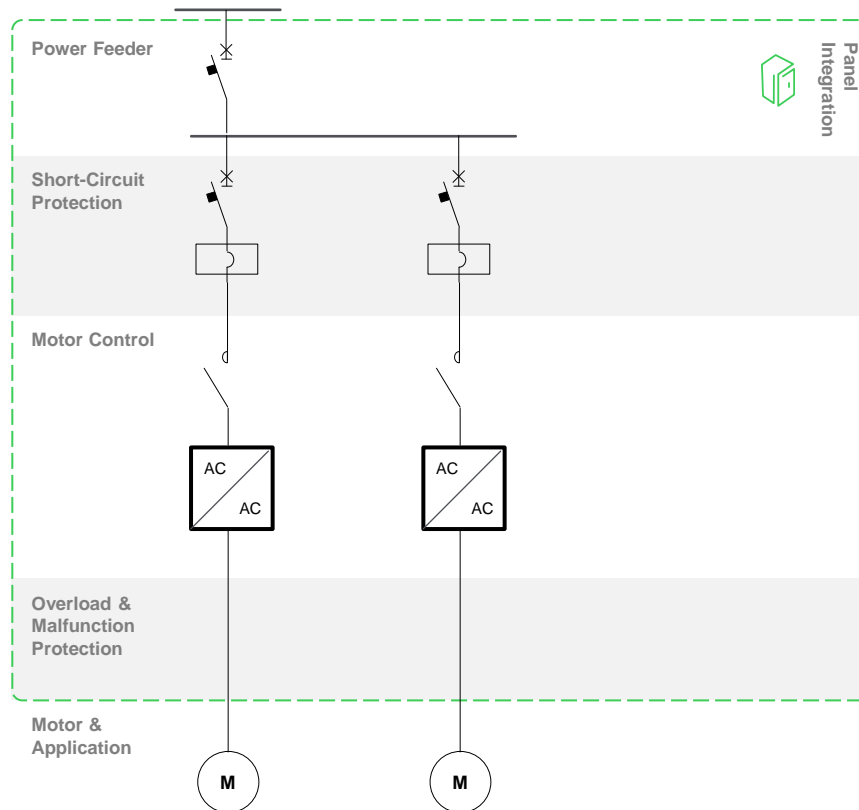
Compact, fast, and easy to install

Easy, cost-effective integration with various machine layouts/frames.

Harsh environments performance

Fast machine recovery

Full safety monitoring with "Safe Torque Off" and four more functions



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

— Process link

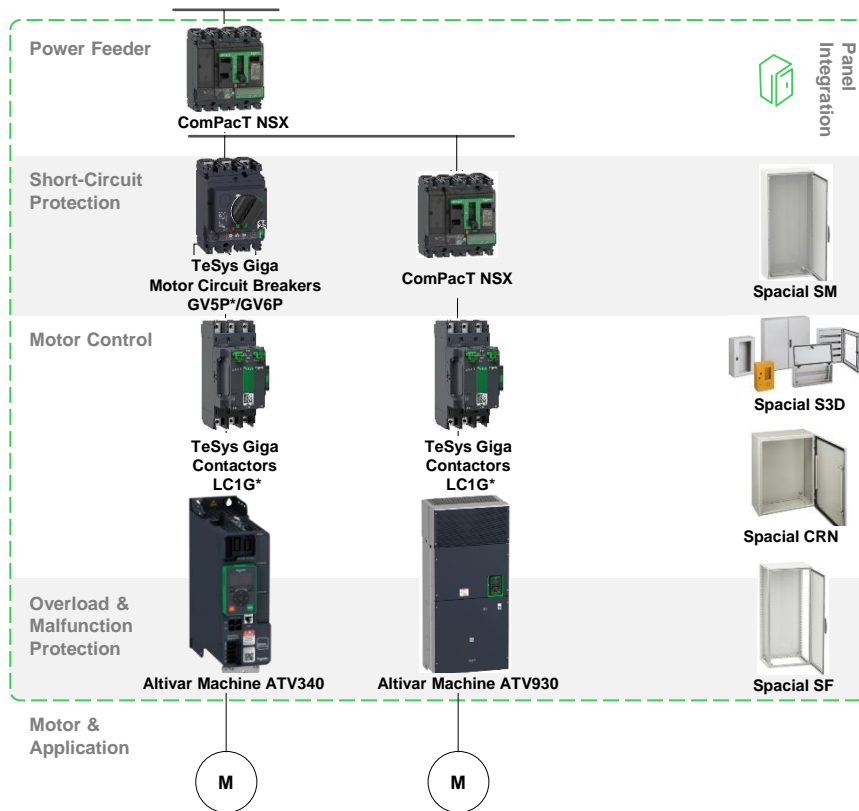
— Data link

Optimized

Simple machines

Architecture

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Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Optimized

Simple machines

Architecture

Power Feeder (Circuit Breaker)

Compact size with flexible installation in any position (switchboard/wall-mounted)

Helps ensure optimized selectivity and coordination

Equipped with integrated earth leakage protection and standardized

Short-Circuit Protection (Circuit Breaker)

Compact size, safe and long-lasting power connection

Coordination with contactor and overload relay

Sends alerts as well as a local indication

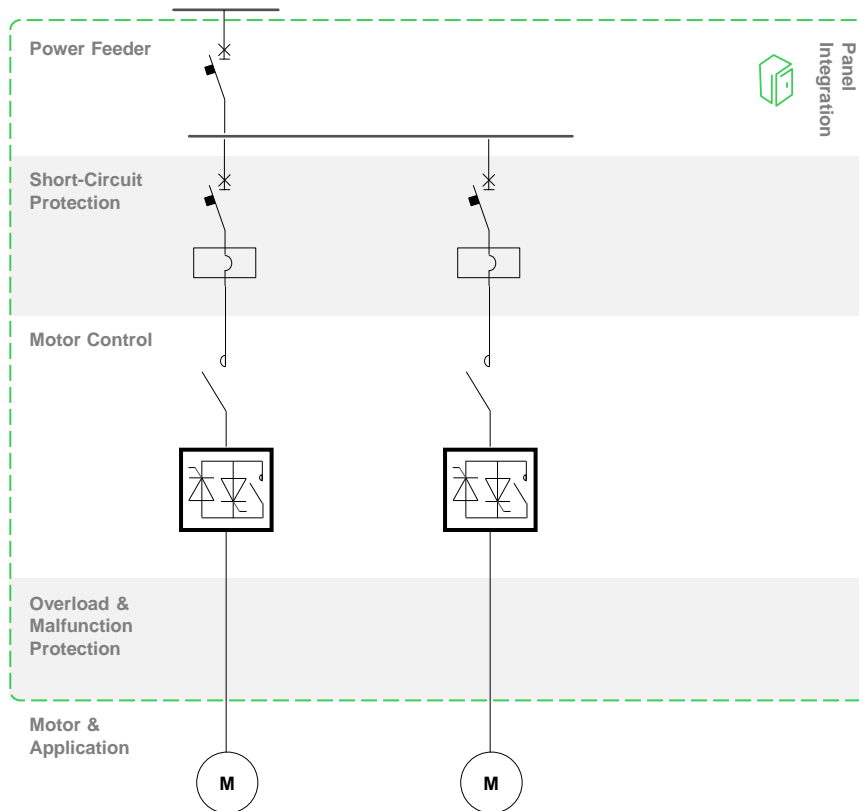
Motor Control (Soft Starter)

Integrated bypass

Motor/starter protection functions integrated as standard

Optimized size and reduced wiring

Torque control during the acceleration and deceleration phases



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

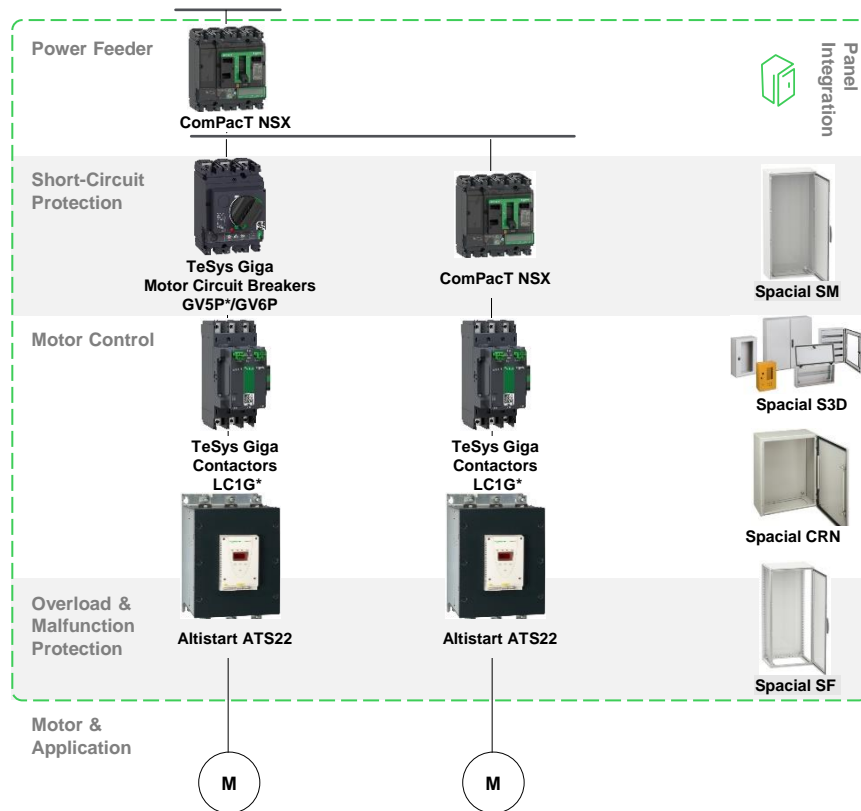
Data link

Optimized

Simple machines

Architecture

Click the *offer icon* for further details on [se.com](#)



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

Process link

Data link

Digitized

Complex machines

Architecture

Offer overview

PANEL OFFER



Spatial SM



Spatial S3D



Spatial CRN



Spatial SF

CLOUD OFFER

EcoStruxure
Asset AdvisorEcoStruxure
Machine SCADA
ExpertEcoStruxure
Machine Expert

AUTOMATION OFFER



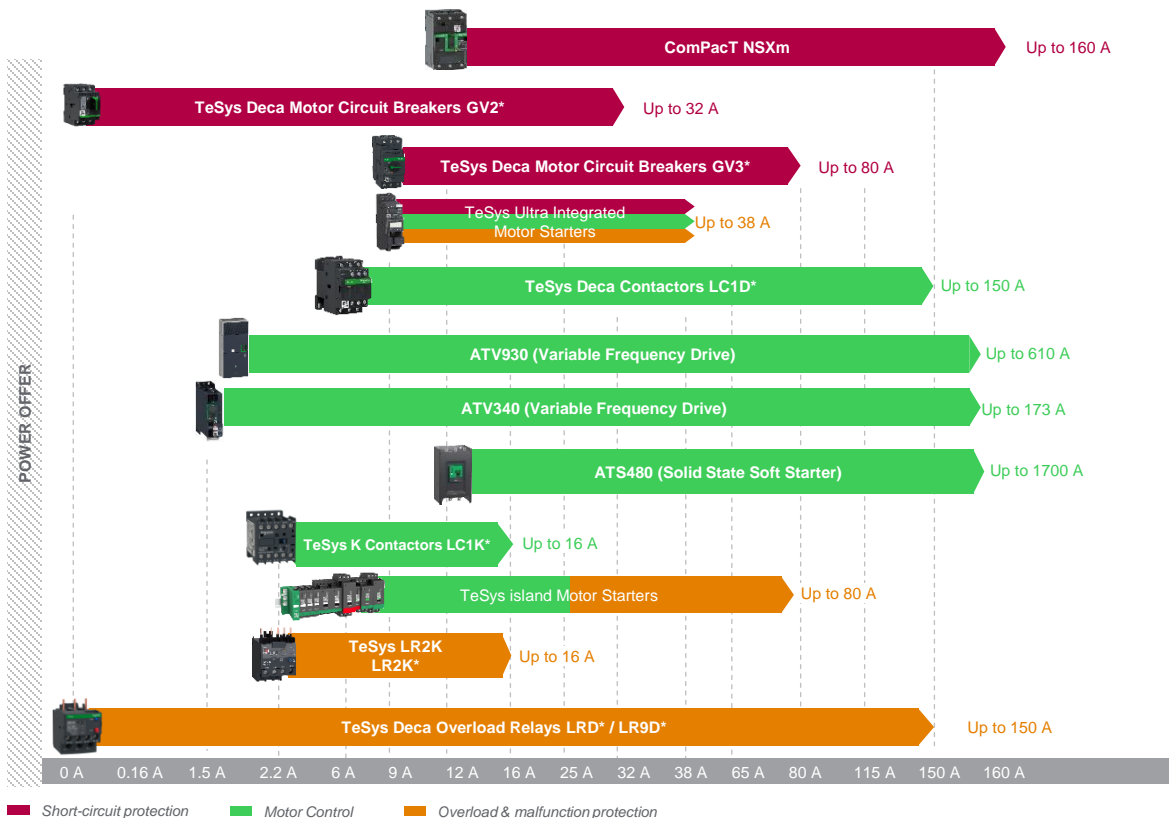
Modicon M241



Modicon M251



Modicon M262



Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

— Process link

— Data link

Digitized

Complex machines

Architecture

Power Feeder (Circuit Breaker)

Energy sensor integrated

Short-Circuit Protection (All-in-One Solution)

Circuit breaker, contactor, and malfunction protection relay integrated

Total coordination (IEC 6047-6-2) as standard

Direct access to detailed information for every motor starter of your installation

Provides advanced Motor Management

Fieldbus connection

Motor Control and Malfunction Protection

Contactor and malfunction protection relay function integrated

Object-oriented approach of the TeSys avatars

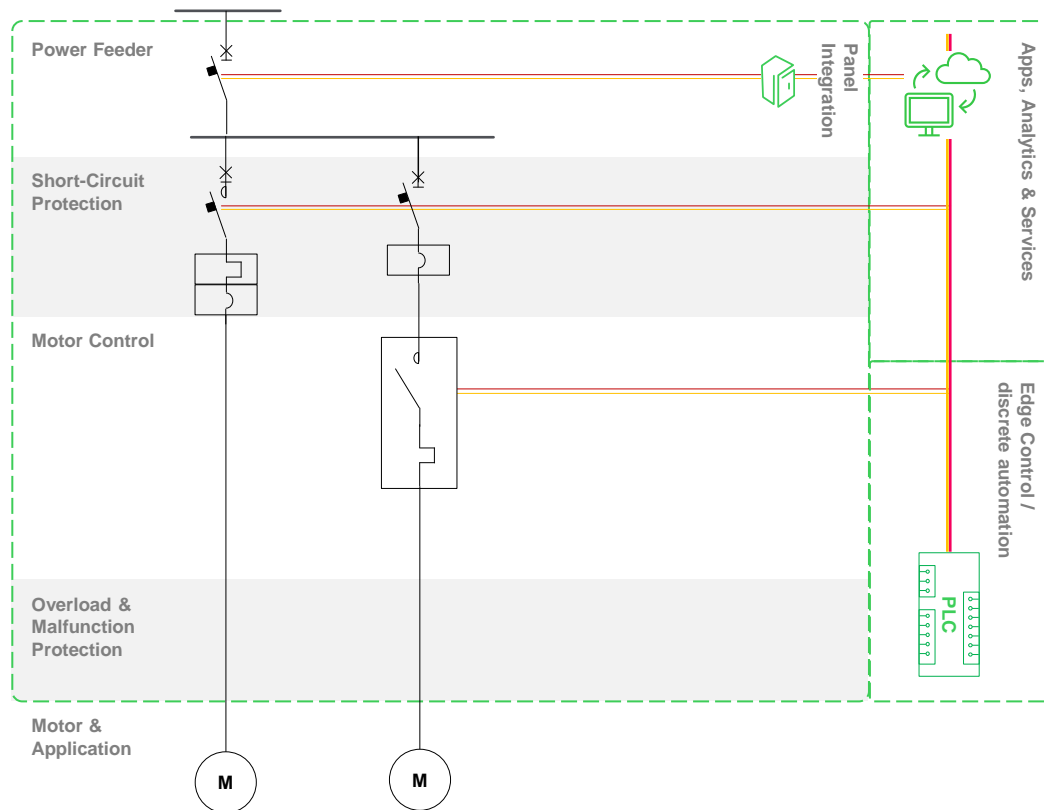
Webserver integrated

Advanced motor/load/process protection

Digitized control by fieldbus connection

Advanced device management

Energy and power monitoring

**Power range**

< 37 kW

< 400 kW

Machines

SIMPLE

ADVANCED

COMPLEX

Device configuration

DOL – 3 Devices

DOL–1/2 Devices

VSD

Soft Starter

Display products

OFF

ON

Process link

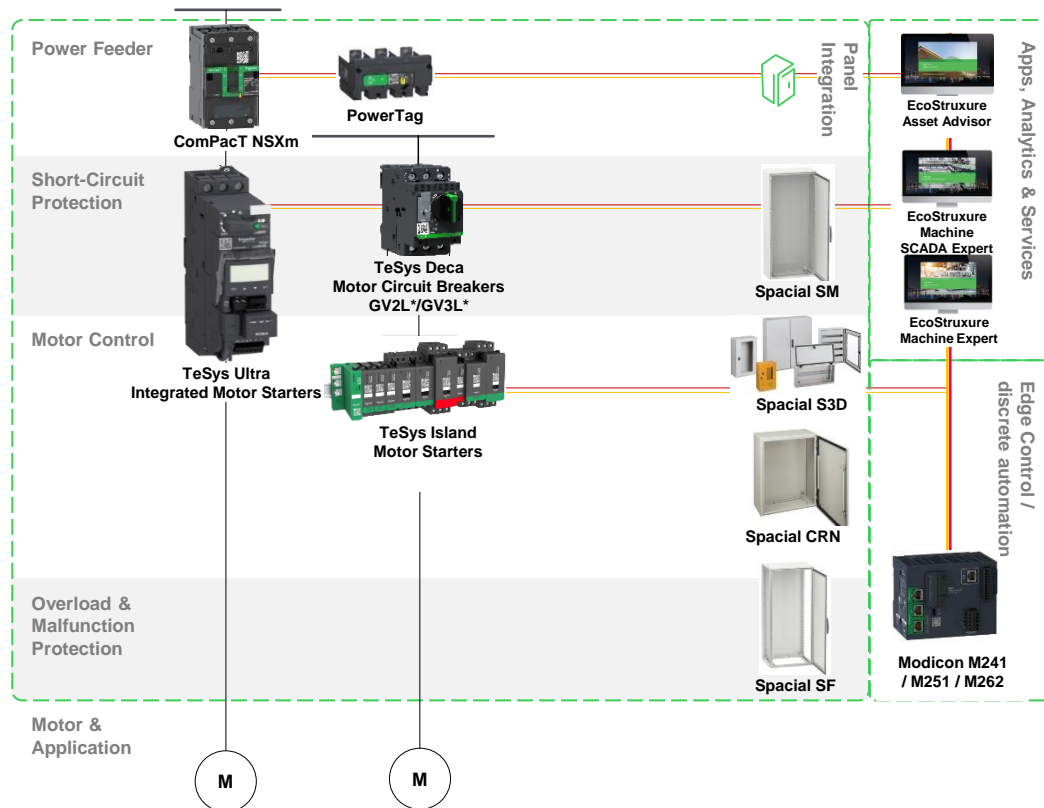
Data link

Digitized

Complex machines

Architecture

Click the *offer icon* for further details on [se.com](#)



Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL–1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Digitized

Complex machines

Architecture

Power Feeder (Circuit Breaker)

Energy sensor integrated

Short-Circuit Protection (Circuit Breaker)

Full trip/open/close status monitoring

Coordination with contactor and overload relays

Motor Control (Contactor)

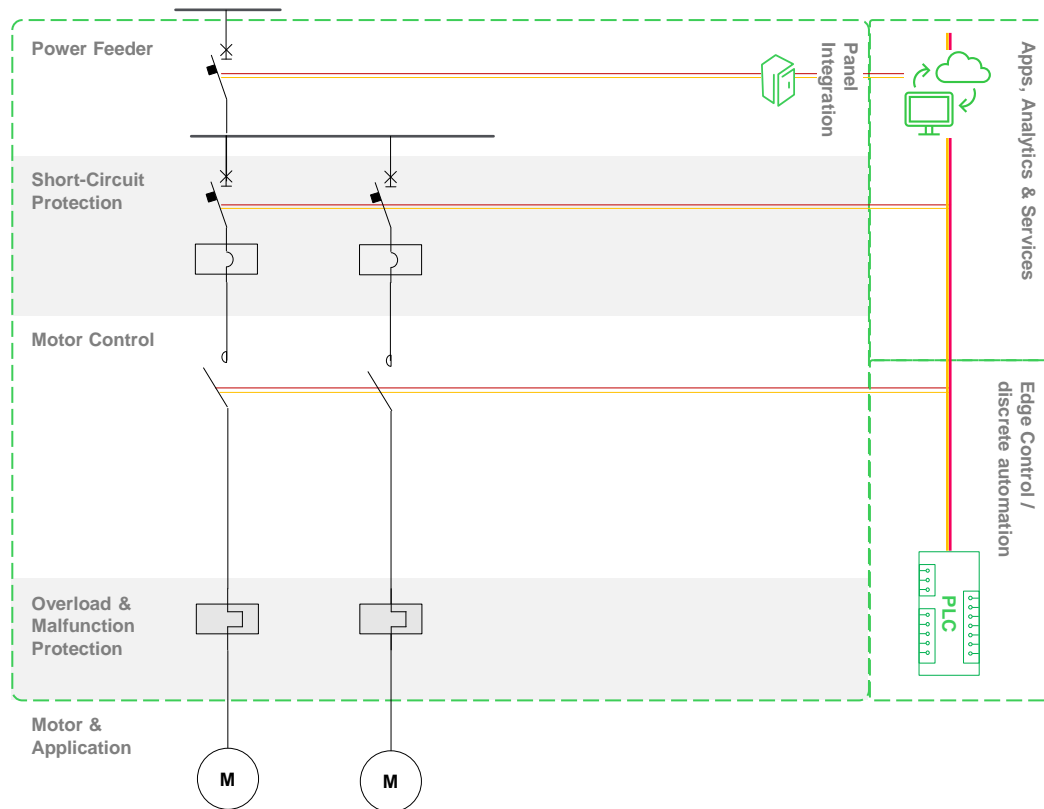
Directly operated contactor coil with PLC digital output signal

Low power switching reliability of auxiliary contactor

Overload & Malfunction Protection

Electronic overload relay

Wide setting range with advanced protections (overload, current unbalance, phase loss, grounding current, etc.)



Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

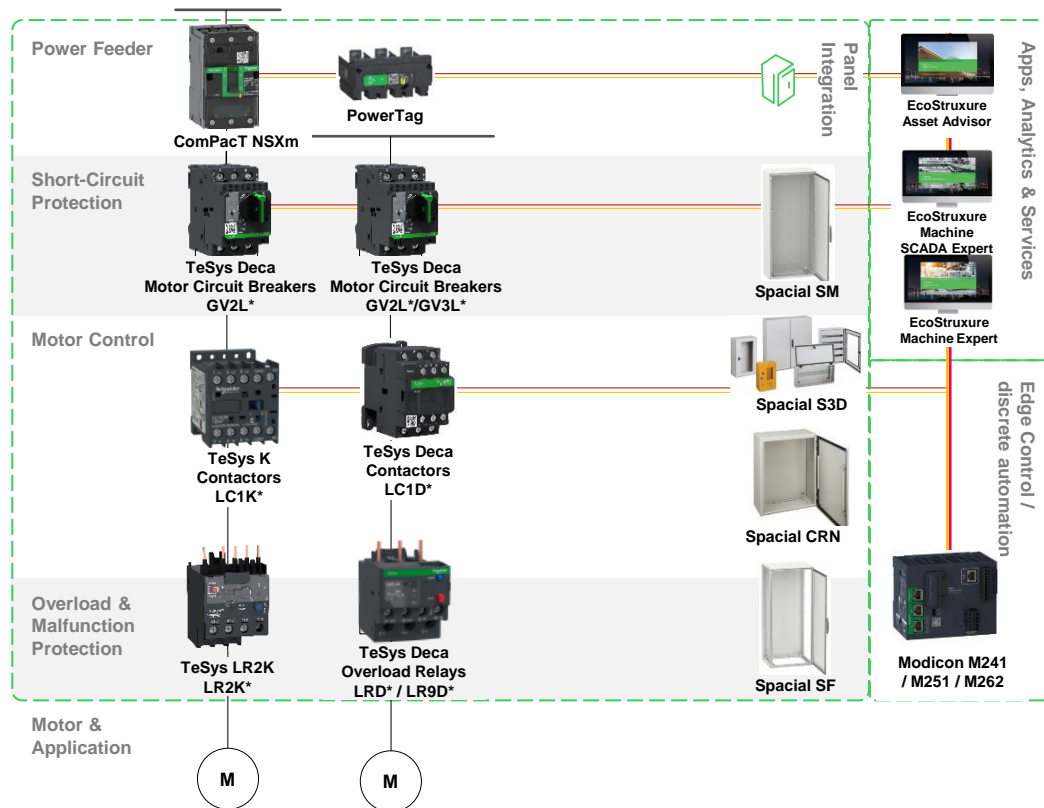
Data link

Digitized

Complex machines

Architecture

Click the **offer icon** for
further details on [se.com](#)



Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

— Process link
— Data link

Digitized

Complex machines

Architecture

Power Feeder (Circuit Breaker)

Energy sensor integrated

Short-Circuit Protection (Circuit Breaker)

Full trip/open/close status monitoring

Coordination with contactor and drives

Motor Control (Variable Frequency Drive)

Advanced motor protection

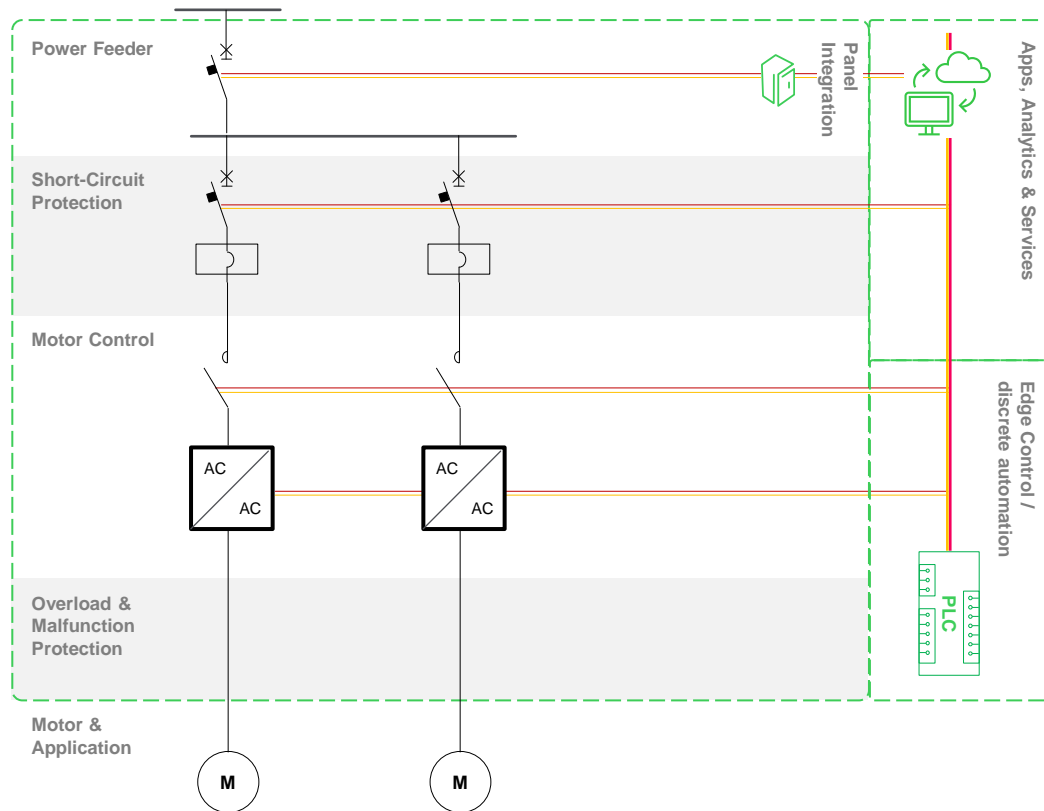
Advanced control performance

Prioritizes safety and cybersecurity

IIoT-connected drive

Webserver embedded

Data provided about process and service



Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

ON

Process link

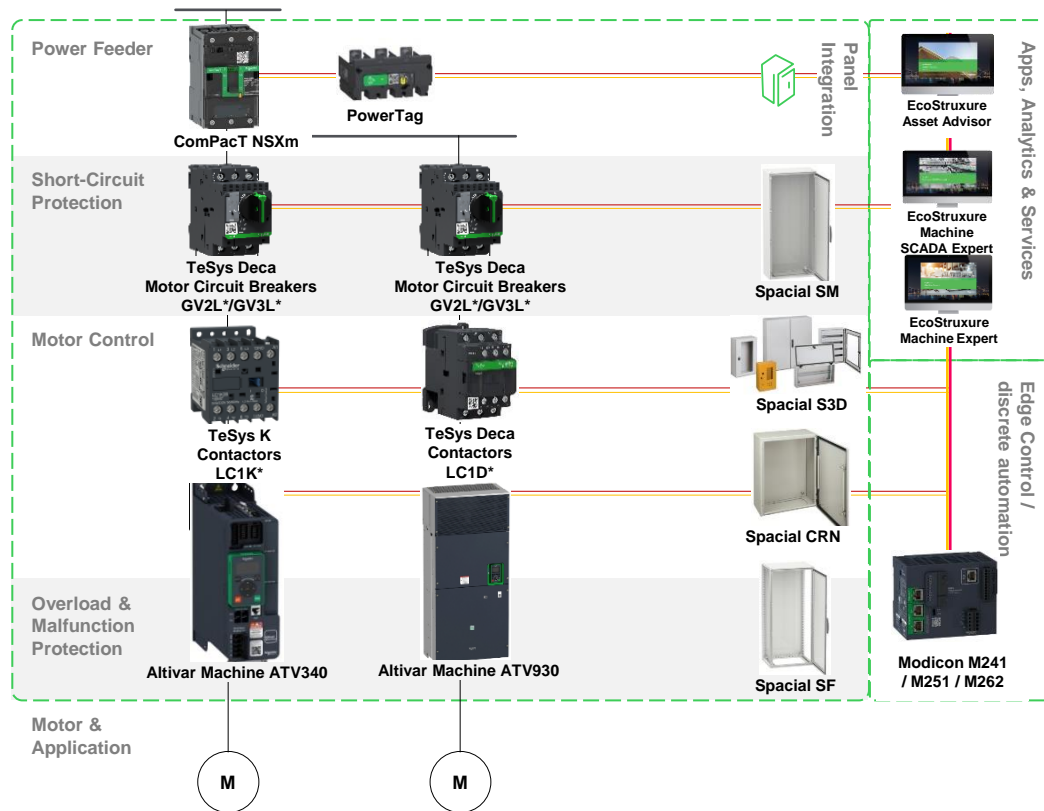
Data link

Digitized

Complex machines

Architecture

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Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Digitized

Complex machines

Architecture

Power Feeder (Circuit Breaker)

Energy sensor integrated

Short-Circuit Protection (Circuit Breaker)

Full trip/open/close status monitoring

Coordination with contactor and drives

Motor Control (Soft Starter)

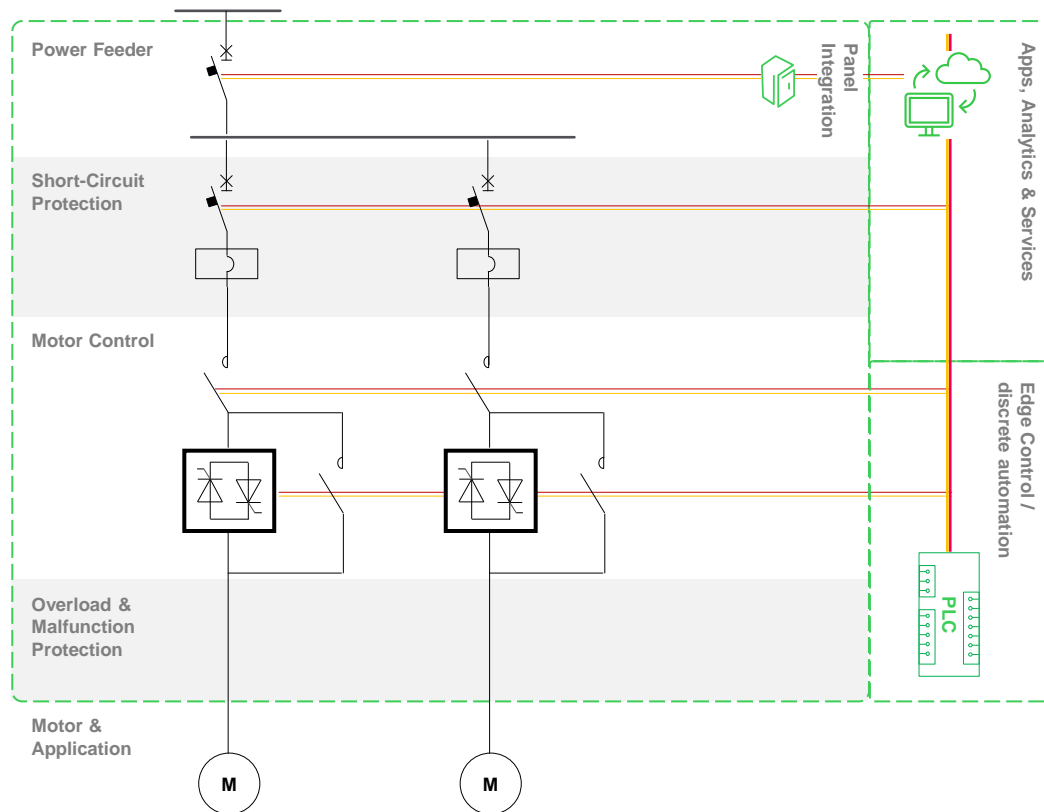
Embedded troubleshooting and digital support

Cybersecurity best practices

Increased continuity of service

Fieldbus adaption

Asset monitoring



Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

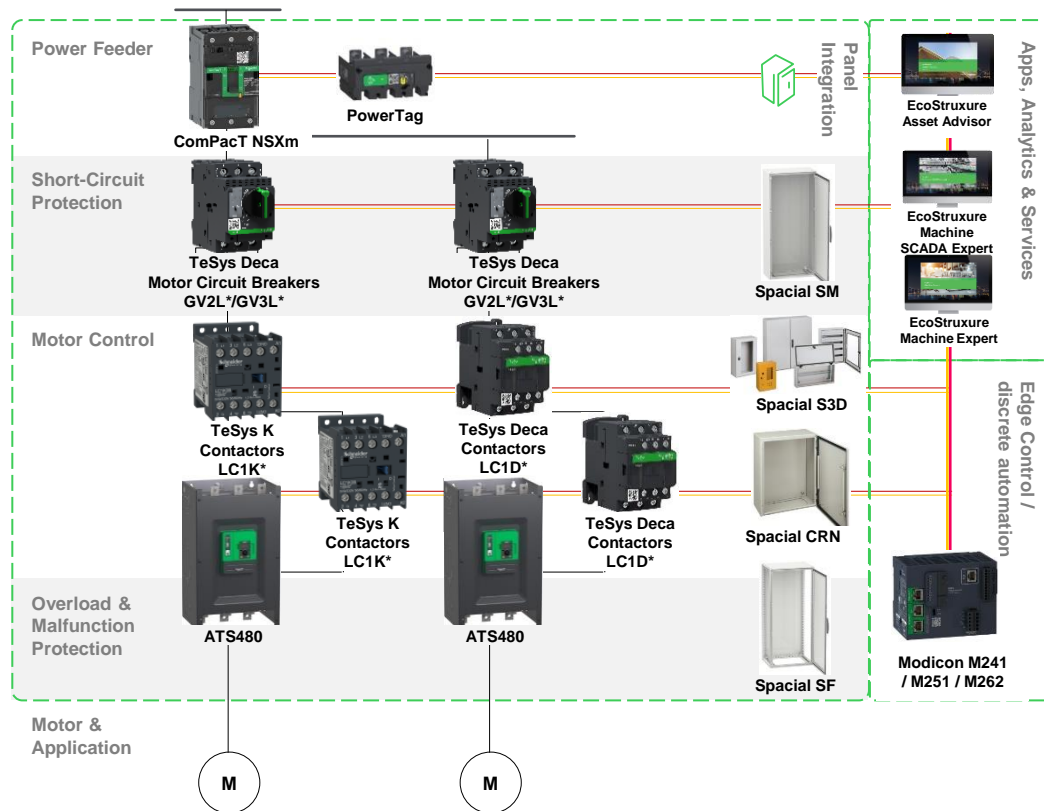
Data link

Digitized

Complex machines

Architecture

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Power range



< 37 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 1/2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

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Core

Advanced machines

Architecture

Offer overview



Spacial SM



Spacial S3D



Spacial CRN



Spacial SF



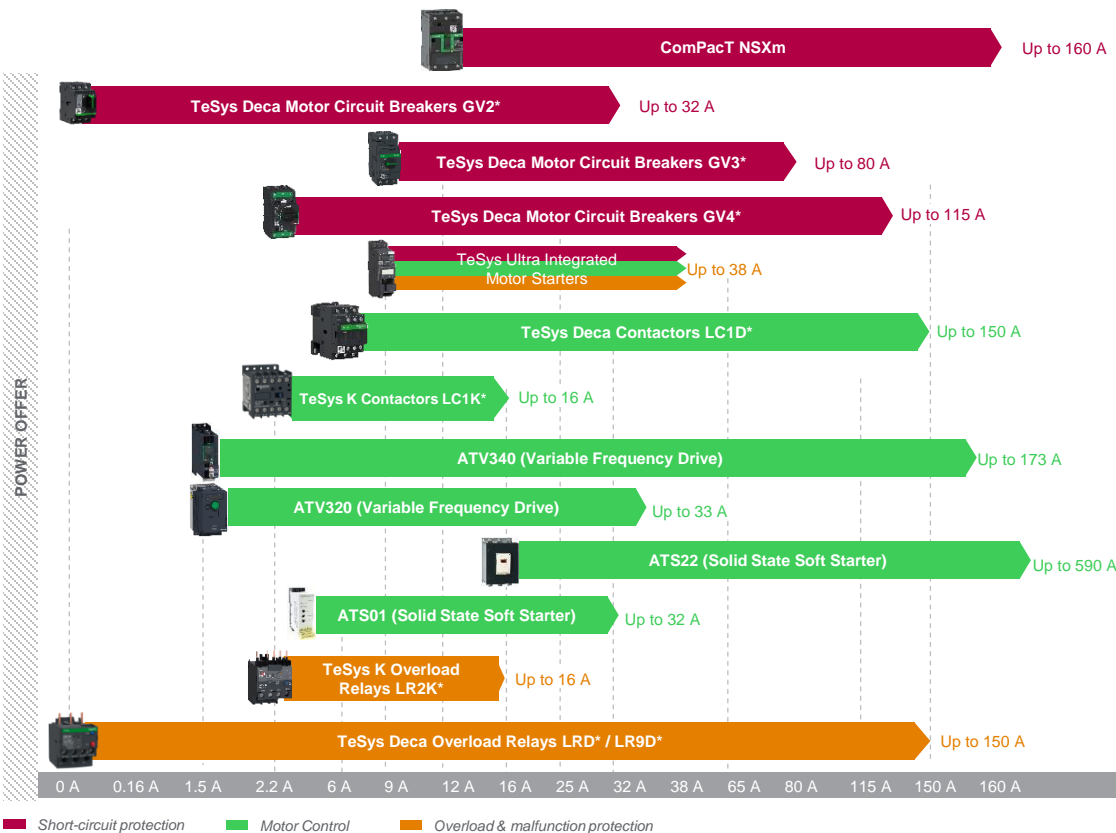
Modicon M241



Modicon M251



Modicon M262



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

— Process link

— Data link

Core

Advanced machines

Architecture

- Power Feeder (Circuit Breaker)**

Helps ensure optimized selectivity and coordination

Provides corrective, preventive, and predictive maintenance for asset management

Equipped with integrated earth leakage protection and standardized accessories

- Short-Circuit Protection (Circuit Breaker)**

Short-circuit protection and overload protection integrated

Full trip/open/close status monitoring

Coordination with contactor

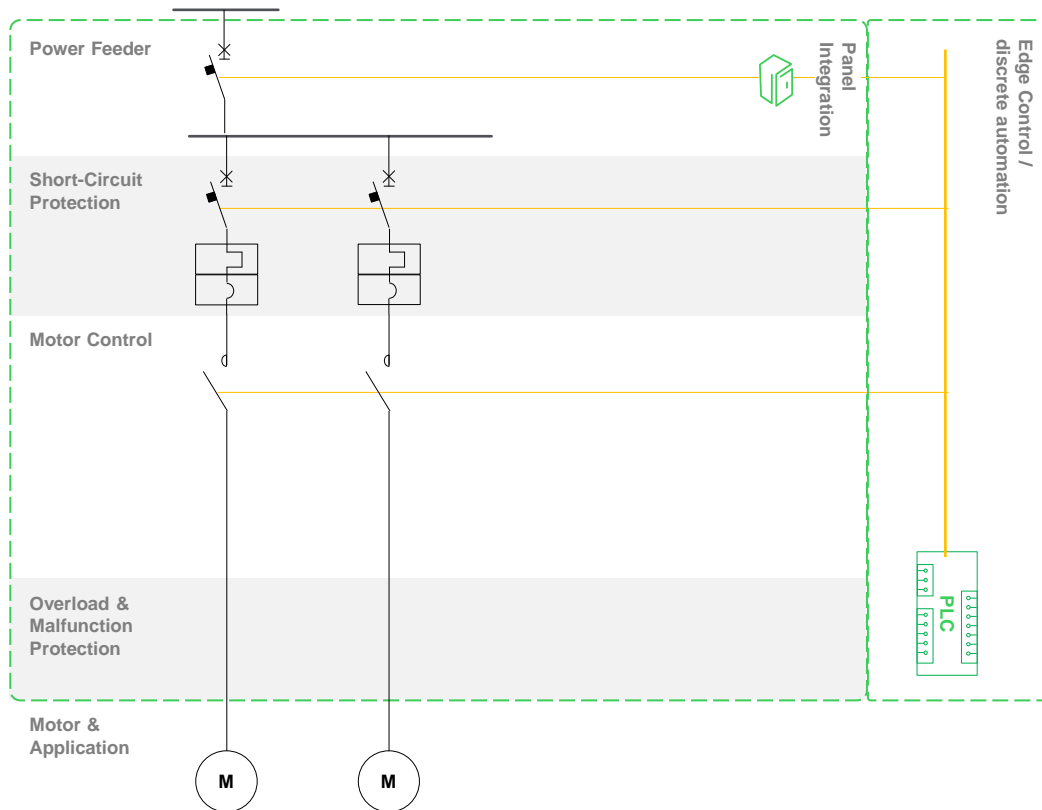
High breaking capacity

Wide setting for protection functions

- Motor Control (Contactor)**

High electrical and mechanical lifetime

Low power switching reliability of auxiliary contactor



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

— Process link

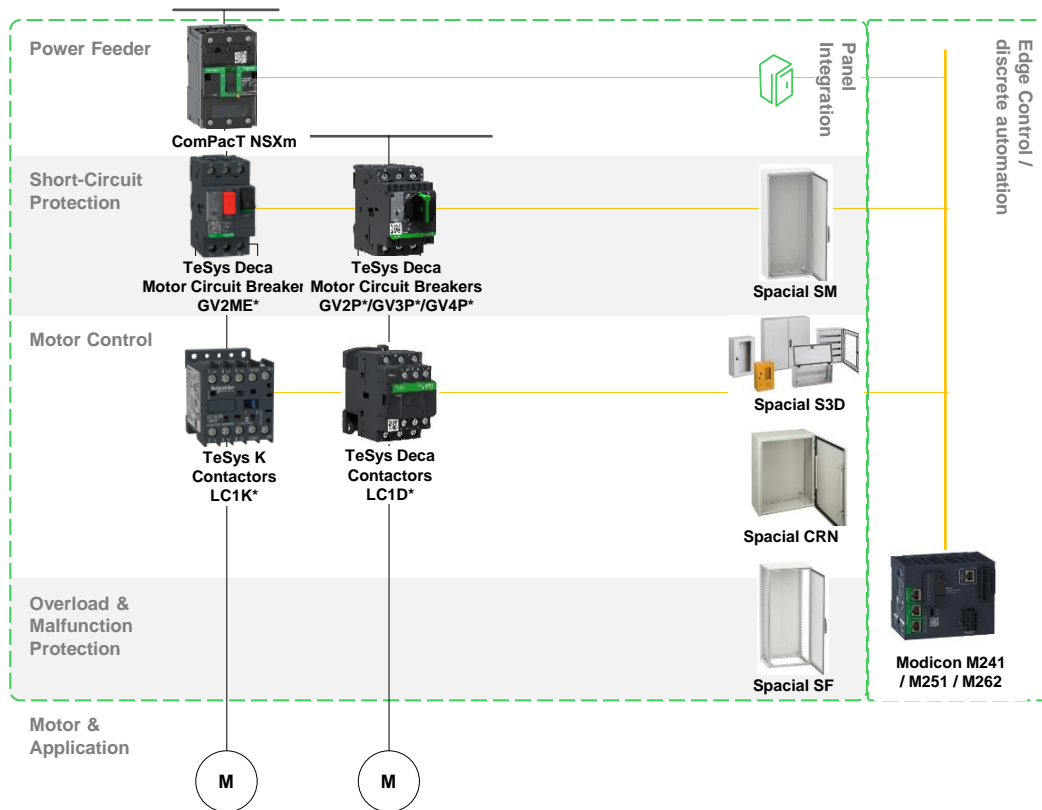
— Data link

Core

Advanced machines

Architecture

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Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Core

Advanced machines

Architecture

Power Feeder (Circuit Breaker)

Helps ensure optimized selectivity and coordination

Provides corrective, preventive, and predictive maintenance for asset management

Equipped with integrated earth leakage protection and standardized accessories

Short-Circuit Protection, Motor Control, and Malfunction Protection (All-in-One Solution)

Circuit breaker, contactor, and malfunction protection relay integrated

Total coordination (IEC 60947-6-2) as standard

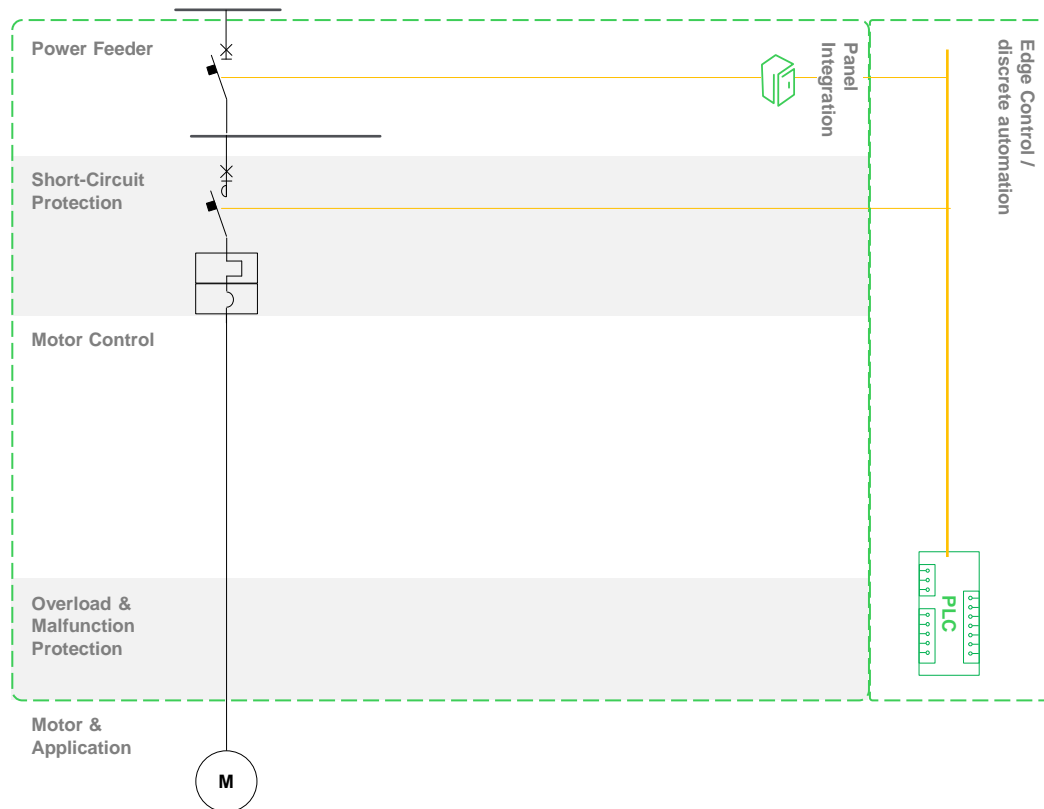
Modular, plug-and-play structure for quick maintenance

Easy wiring

Advanced Motor Management

Wide-setting range with advanced protections

Fieldbus connection



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

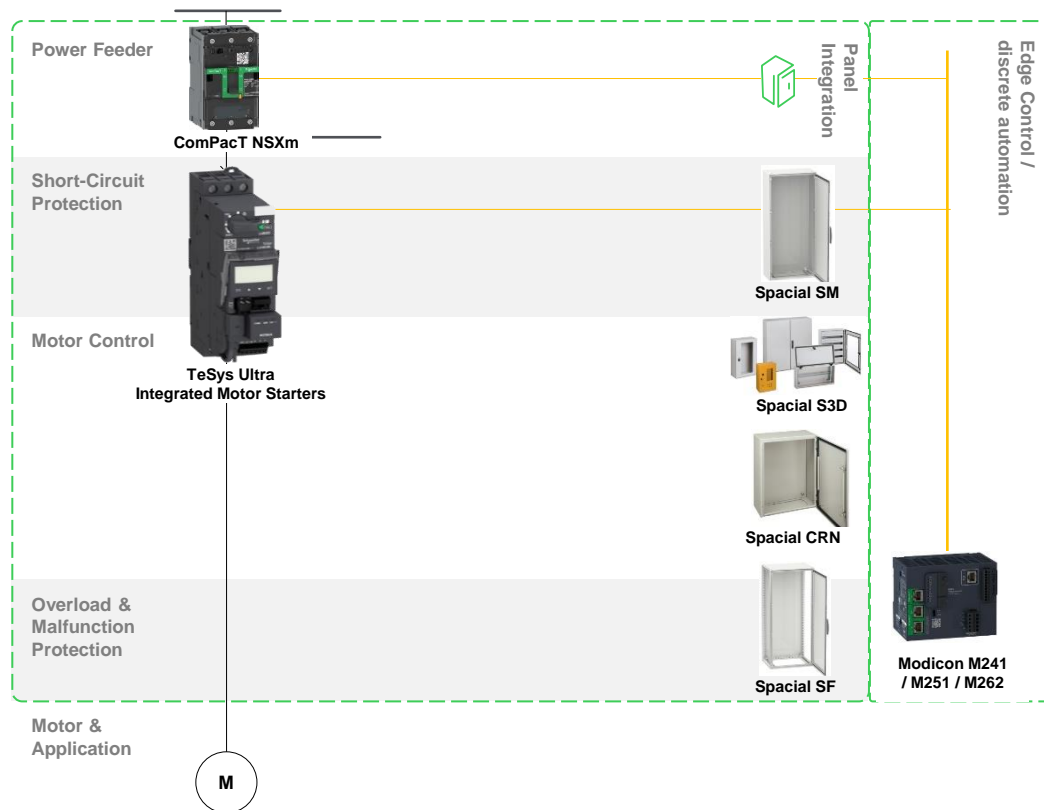
Data link

Core

Advanced machines

Architecture

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Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

Core

Advanced machines

Architecture

Power Feeder (Circuit Breaker)

Helps ensure optimized selectivity and coordination

Provides corrective, preventive, and predictive maintenance for asset management

Equipped with integrated earth leakage protection and standardized accessories

Short-Circuit Protection (Circuit breaker)

Full trip/open/close status monitoring

Coordination with contactor and drives

High breaking capacity

Motor Control (Variable Frequency Drive)

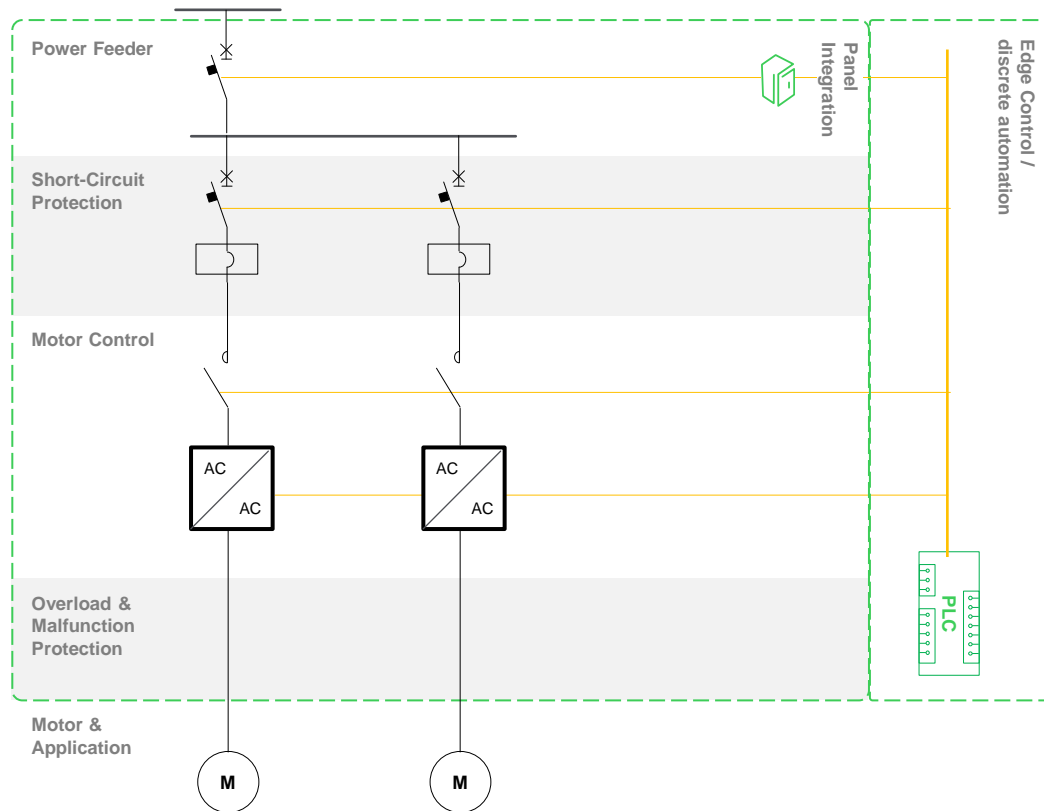
Advanced motor protection

Advanced control performance

Harsh environment performance

Fast machine recovery

Full safety monitoring with "Safe Torque Off" and four more functions



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

Process link

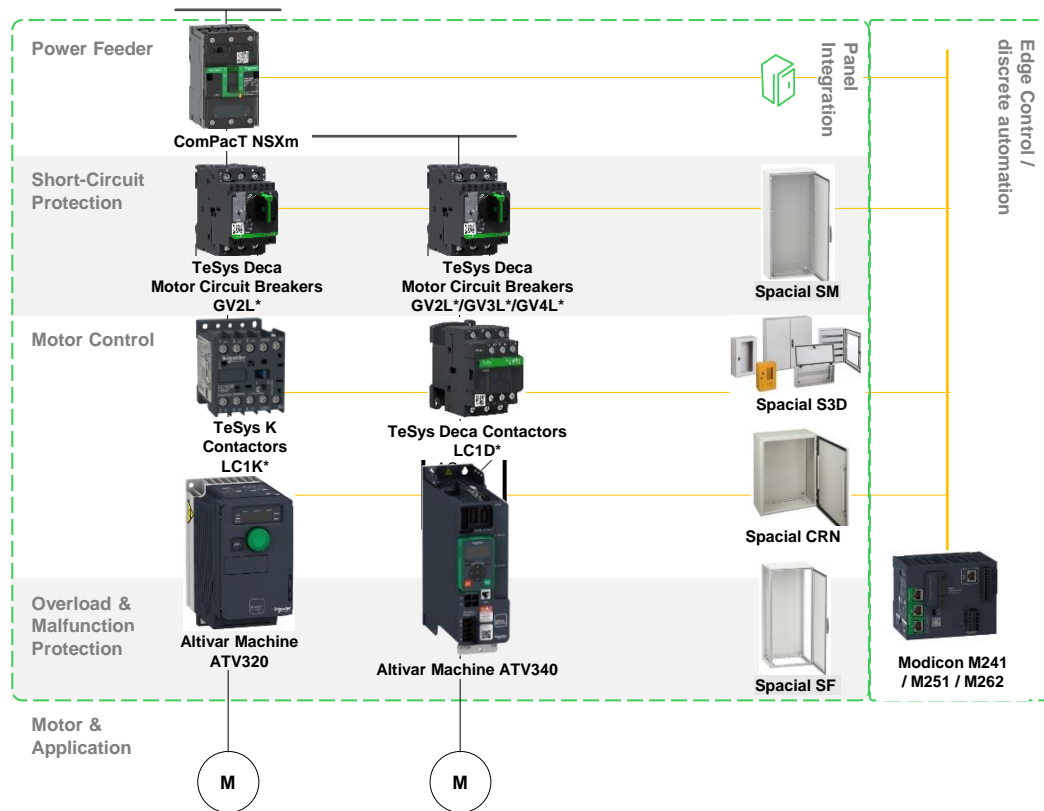
Data link

Core

Advanced machines

Architecture

Click the **offer icon** for further details on [se.com](#)



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



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Advanced machines

Architecture

Power Feeder (Circuit Breaker)

Helps ensure optimized selectivity and coordination

Provides corrective, preventive, and predictive maintenance for asset management

Equipped with Integrated earth leakage protection and standardized accessories

Short-Circuit Protection (Circuit Breaker)

Full trip/open/close status monitoring

Coordination with contactor and drives

High breaking capacity

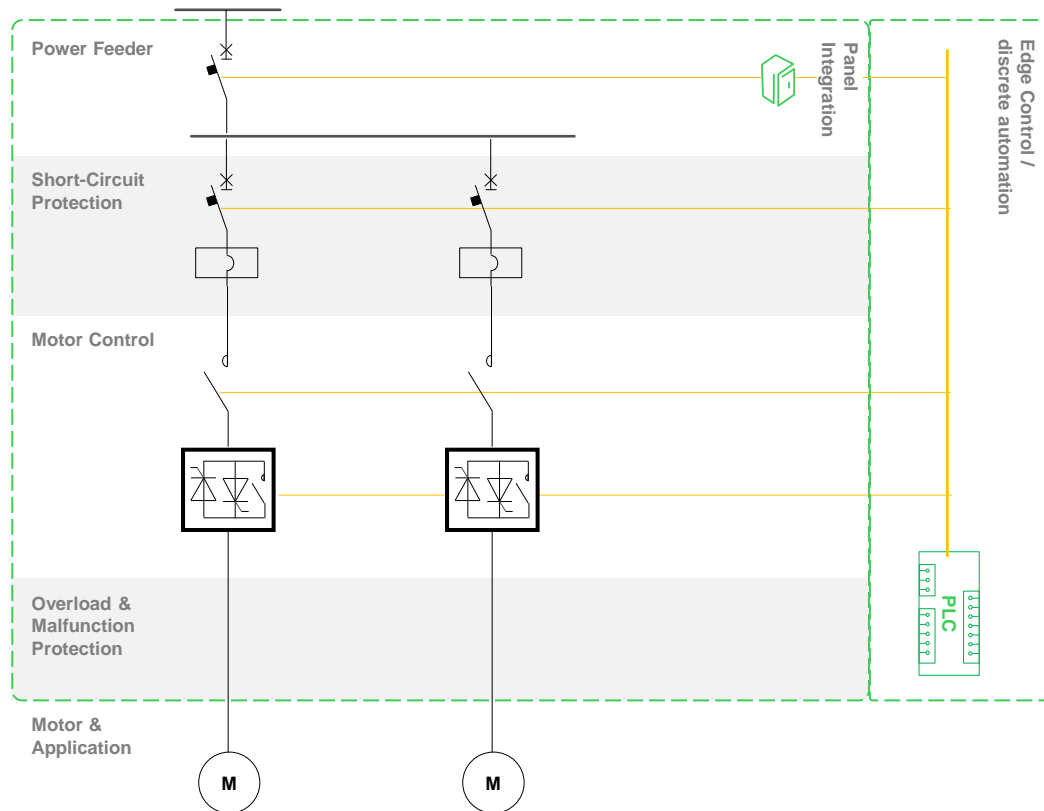
Motor Control (Soft Starter)

Advanced torque control during the acceleration and deceleration phases

Integrated bypass

Complete protection of the motor and the starter

Fieldbus connection



Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

DIGITIZED

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

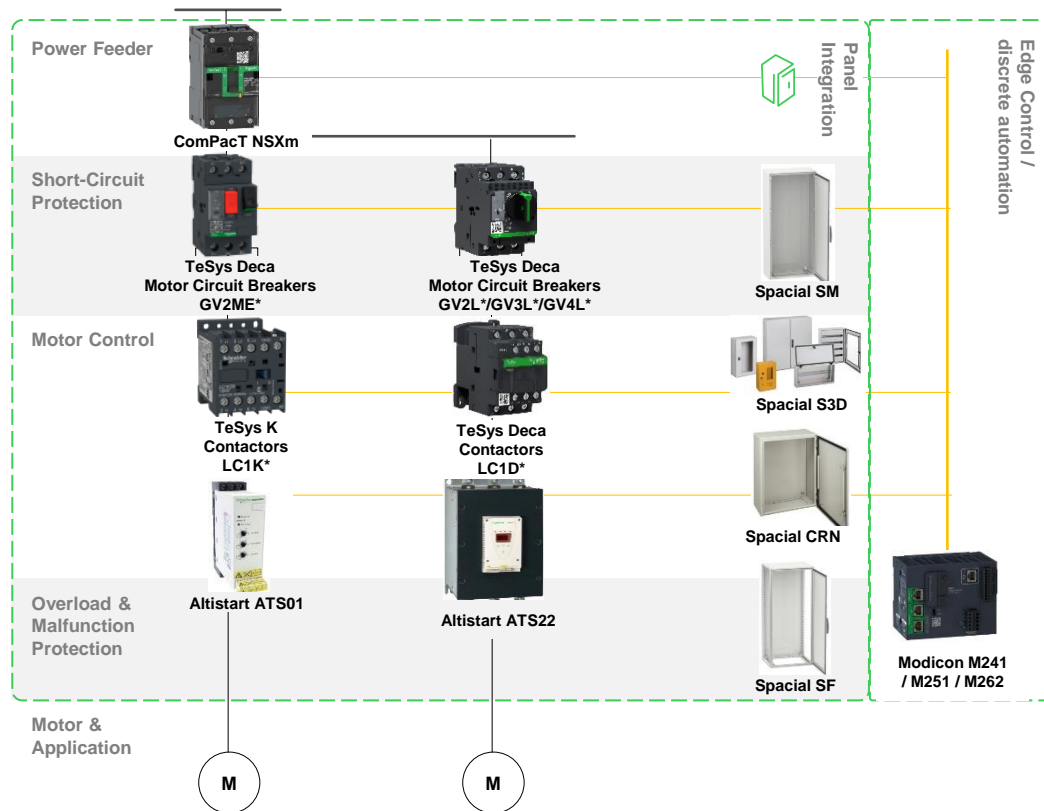
Data link

Core

Advanced machines

Architecture

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Power range



< 75 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 1 Device

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF

ON

Process link

Data link

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Optimized

Simple machines

Architecture

Offer overview



Spatial SM



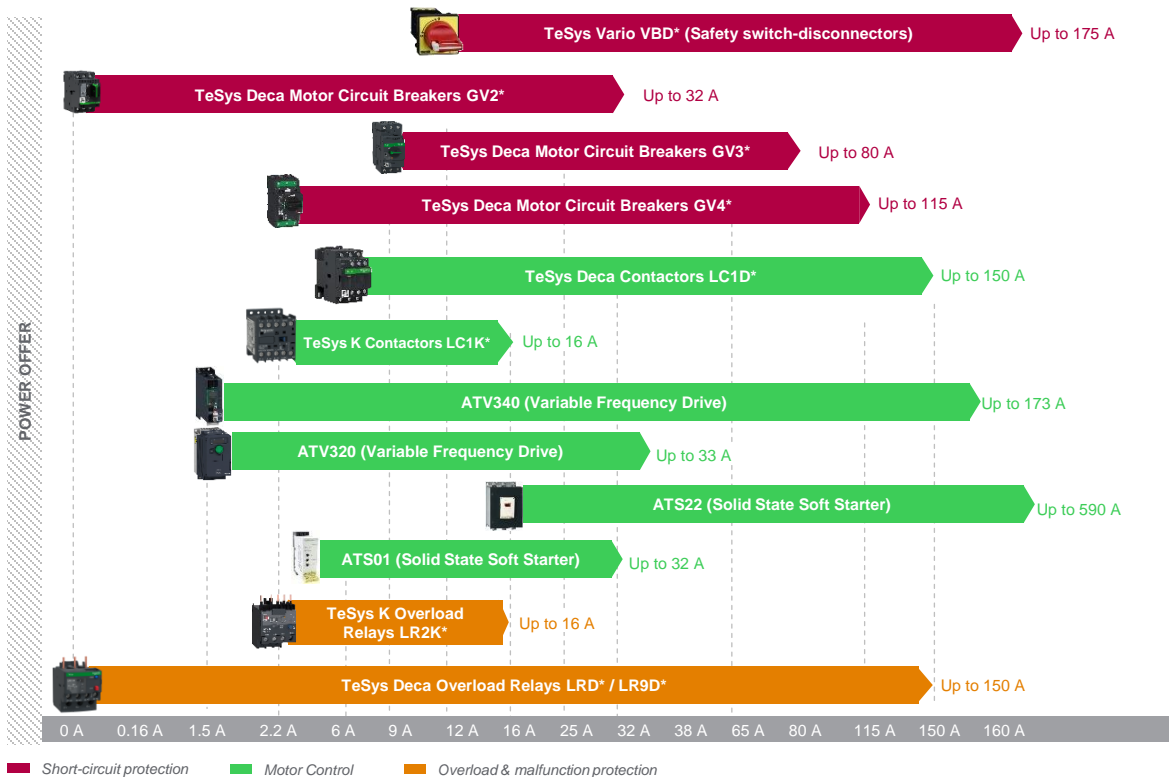
Spatial S3D



Spatial CRN



Spatial SF



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

— Process link

— Data link

Optimized

Simple machines

Architecture

• Safety Switch Disconnecter

Compact, easy-to-use and install

High level of protection for maintenance personnel

IP protection degree

• Short-Circuit Protection (Circuit Breaker)

Safe and long-lasting power connection

High breaking capacity

Trip/short-circuit indication

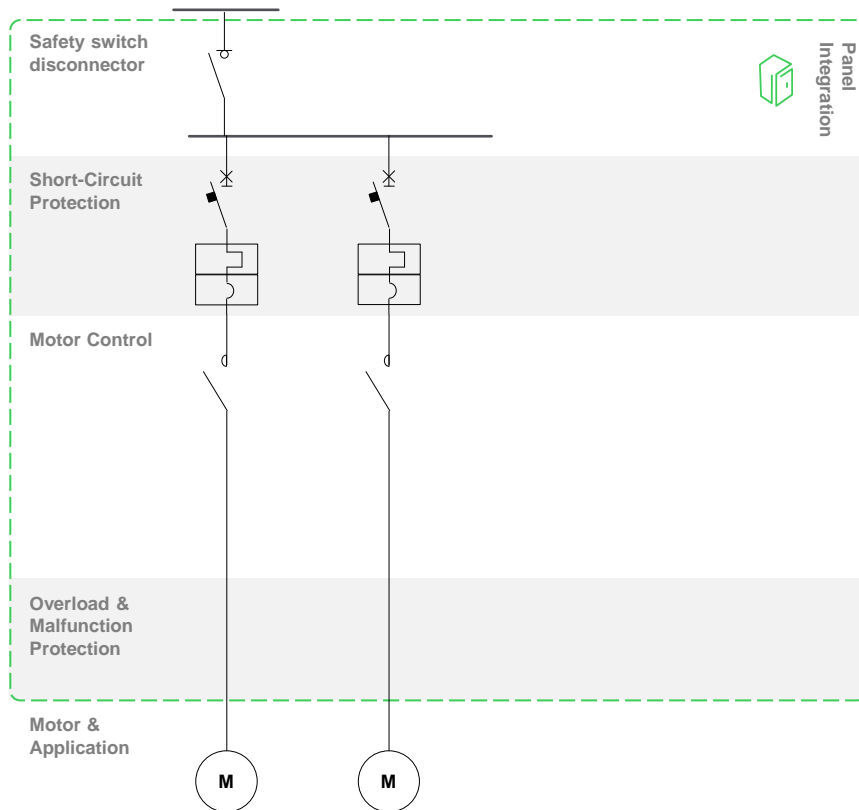
• Motor Control (Contactor)

Covers various applications (standard, reverse, star-delta, auto-transformer, etc.)

Various coil types: AC, DC, and low-consumption DC control circuit

Harsh environment performance

Easy and safe direct mounting between the contactor and circuit breaker



Power range



< 55 kW

< 400 kW

Machines



SIMPLE

ADVANCED

COMPLEX

Device configuration



DOL – 3 Devices

DOL – 2 Devices

VSD

Soft Starter

Display products



OFF



ON

Process link

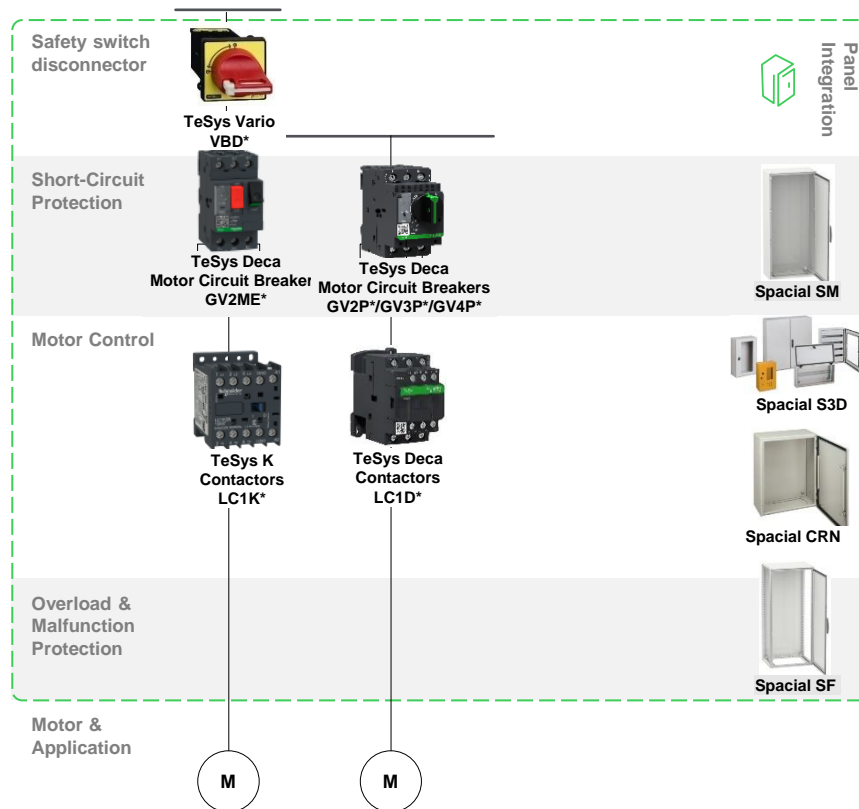
Data link

Optimized

Simple machines

Architecture

Click the *offer icon* for
further details on [se.com](#)



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ON

Process link

Data link

Optimized

Simple machines

Architecture

• Safety Switch Disconnecter

Compact, easy-to-use and install

High level of protection for maintenance personnel

IP protection degree

• Short-Circuit Protection (Circuit Breaker)

Safe and long-lasting power connection

High breaking capacity

• Motor Control (Contactor)

Covers various applications (standard, reverse, star-delta, auto-transformer, etc.)

Various coil types (AC, DC, low-consumption DC control circuit)

Harsh environment performance

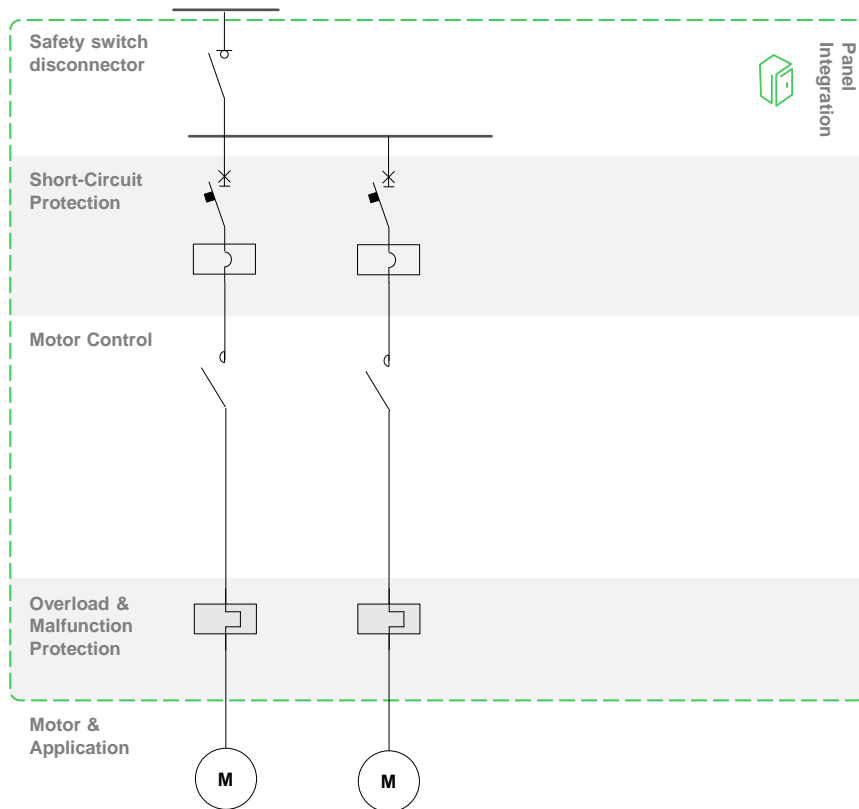
Easy and safe direct mounting between the contactor and circuit breaker

• Overload Protection (Overload Relay)

Safe and effective protection

Simple to install

Integrated manual-automatic reset



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Display products



OFF

ON

Process link

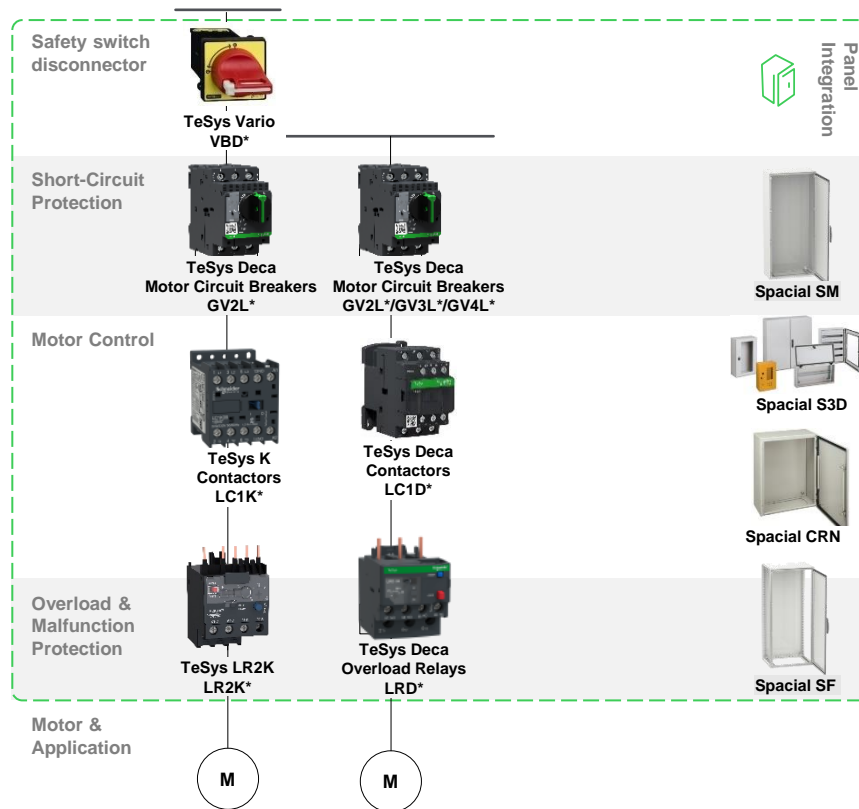
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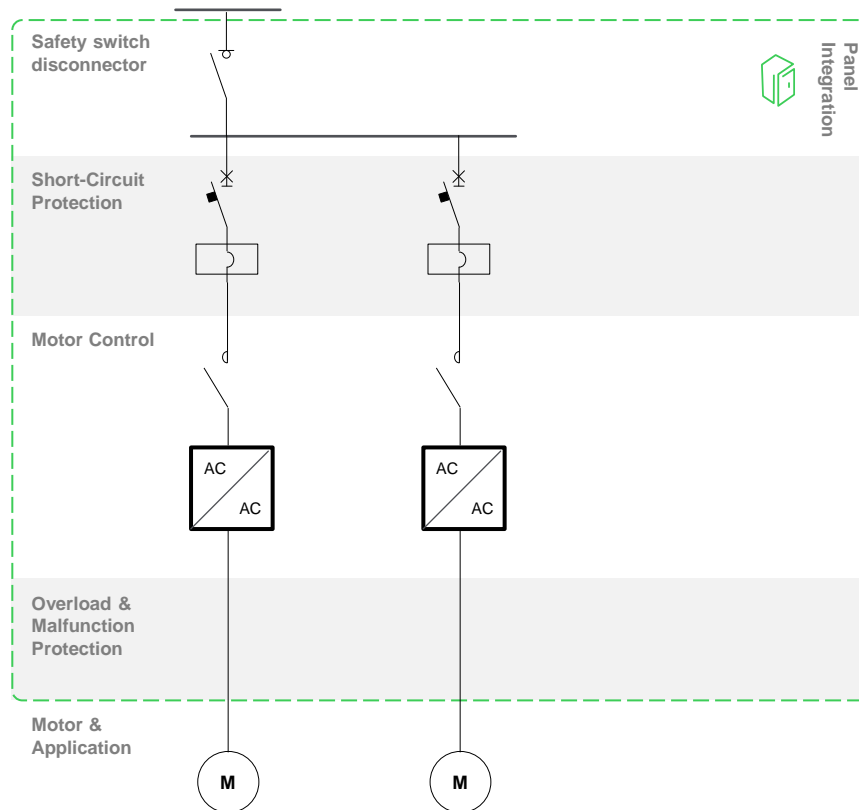
• Motor Control (Variable Frequency Drive)

Compact, with fast and easy installation

Easy, cost-effective integration with various machine layouts/frames

Harsh environment performance

Full safety monitoring with "Safe Torque Off" and four more functions



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— Data link

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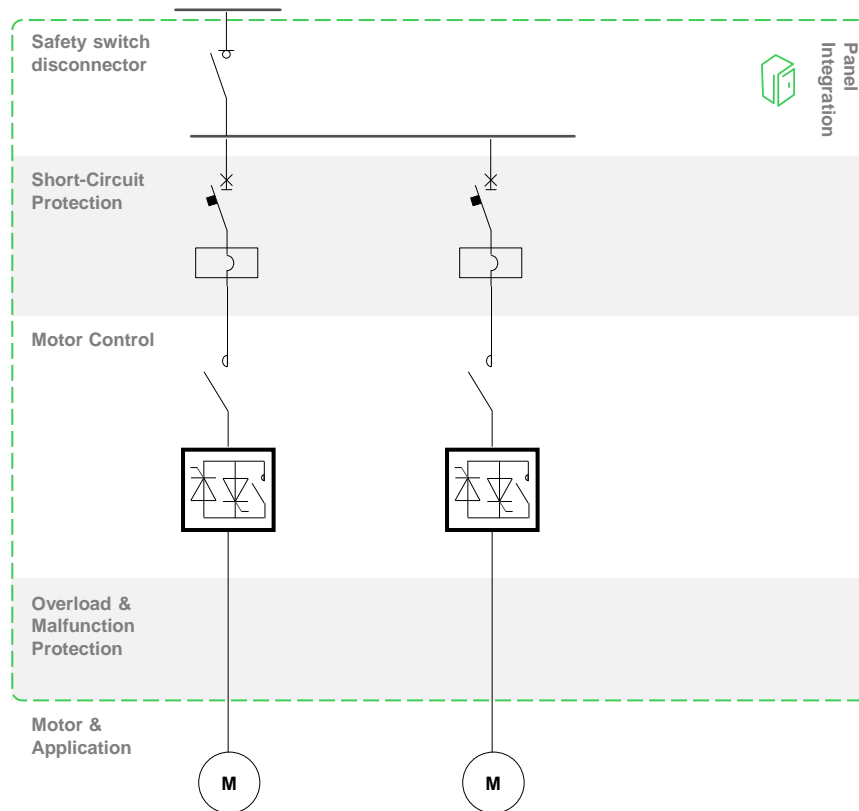
• Motor Control (Soft Starter)

Integrated bypass

Motor/Starter protection functions integrated as standard

Optimized size and reduced wiring

Torque control during the acceleration and deceleration phases



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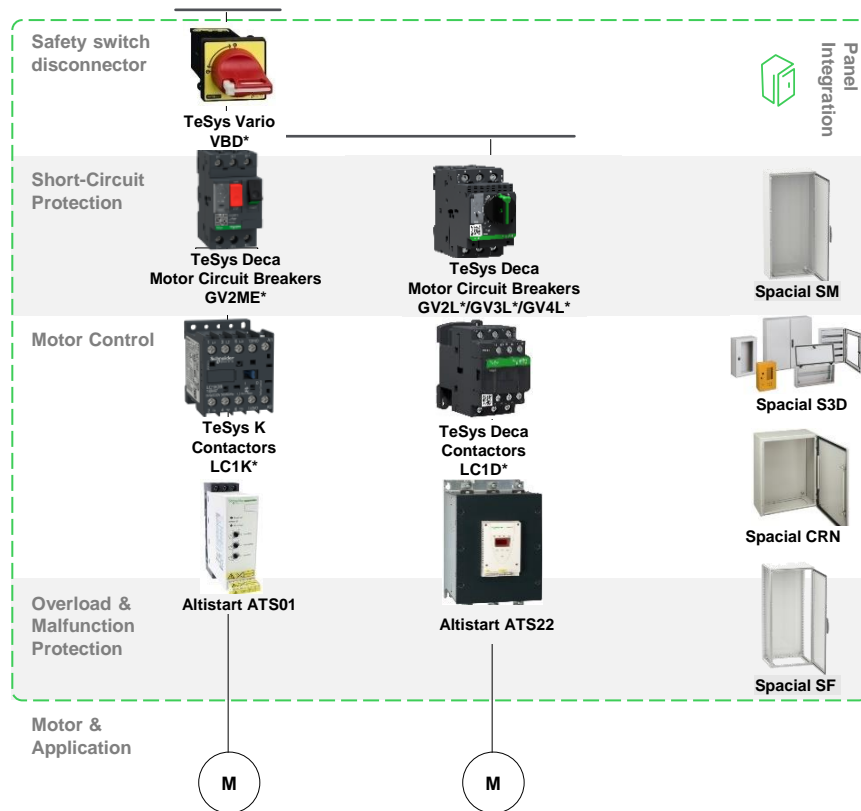
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Life Is On



Schneider
Electric