

Intrinsically Safe I/O Barriers and Non-IS Isolators

D5000 and D6000 Series





D5000 modules

Analog Input

- D5011
- D5014
- D5015
- D5212
- D5254

Digital Input

- D5030
- D5031
- D5032
- D5034
- D5036
- D5037
- D5231

Temperature

- D5072
- D5273

Analog Output

- D5020

Digital Output

- D5040
- D5240
- D5048
- D5049

Others

- D5060
- D5062
- D5263
- D5264



D5000 modules with line monitoring

Analog Input

- D5011
- D5014
- D5015
- D5212
- D5254

Digital Input

- D5030
- D5031
- D5032
- D5034
- D5036
- D5037
- D5231

Temperature

- D5072
- D5273

Analog Output

- D5020

Digital Output

- D5040
- D5240
- D5048
- D5049

Others

- D5060
- D5062
- D5263
- D5264



D5000 modules supporting Modbus

Analog Input

- D5011
- D5014
- D5015
- D5212
- D5254

Digital Input

- D5030
- D5031
- D5032
- D5034
- D5036
- D5037
- D5093
- D5231

Temperature

- D5072
- D5273

Analog Output

- D5020

Digital Output

- D5040
- D5240
- D5048
- D5049

Others

- D5060
- D5062
- D5263
- D5264



D5000 modules SIL3 (IEC 61508)

Analog Input

- D5011
- D5014
- D5015
- D5212
- D5254

Digital Input

- D5030
- D5031
- D5032
- D5034
- D5036
- D5037
- D5231

Temperature

- D5072
- D5273

Analog Output

- D5020

Digital Output

- D5040
- D5240
- D5048
- D5049

Others

- D5060
- D5062
- D5263
- D5264



D5000 modules SIL2 (IEC 61508)

Analog Input

- D5011
- D5014
- D5015
- D5212
- D5254

Digital Input

- D5030
- D5031
- D5032
- D5034
- D5036
- D5037
- D5093
- D5231

Temperature

- D5072
- D5273

Analog Output

- D5020

Digital Output

- D5040
- D5240
- D5048
- D5049

Others

- D5060
- D5062
- D5263
- D5264



D6000 modules

WITH LINE MONITORING, SIL2 (IEC 61508)

Digital Input

- D6030
- D6031
- D6032
- D6034
- D6036
- D6037
- D5093
- D5231

Analog Input

- D6010
- D6014
- D6015
- D6212
- D6254

Analog Output

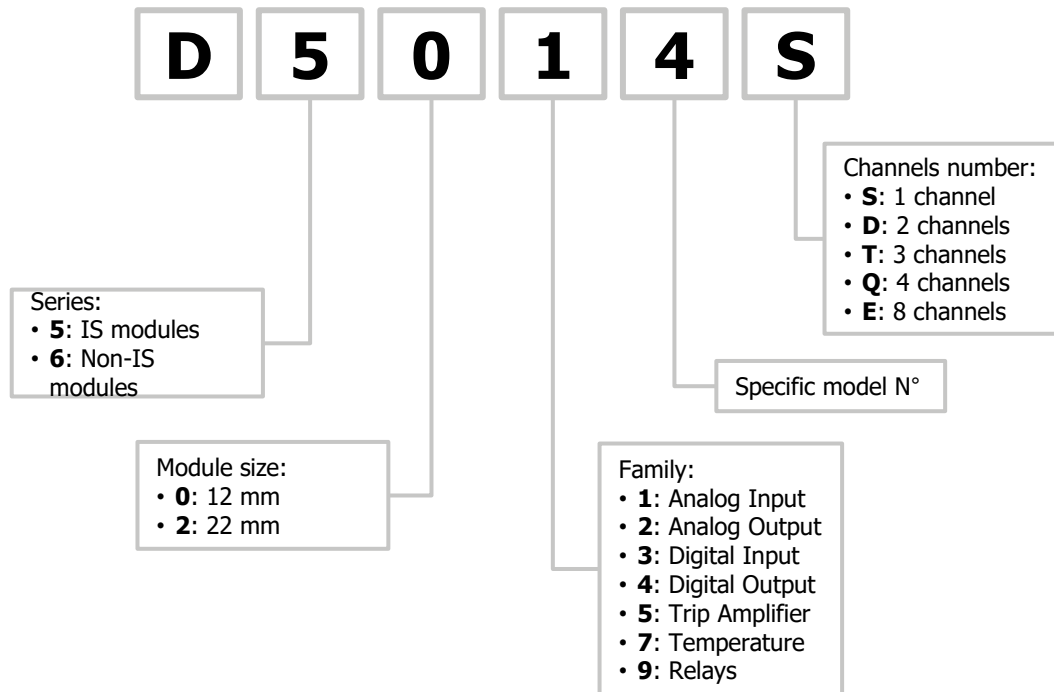
- D6020

Temperature

- D6072
- D6273



Coding model names



D5000/D6000 Series



Intrinsically Safe: Isolators, Conditioners, Trip Amplifiers



D5000 SERIES STRENGTHS

- **Reduced Foot Print: High Density:** 6 mm per channel
- **Reduced Bulk Power Supply:** Low power consumption
- **Reduced Cooling Needs:** Low heat dissipation
- **Higher Reliability In & Outdoor:** Certified -40° to + 70° C
- **Higher Resilience to Surges:** 2.5 KV isolation
- **Data Guaranteed by 3rd Party:** SIL 3 (2) TÜV certification
- **Current & Valid Standard:** Certified IEC 61508:2010, Ed.2
- **Lower Ownership Cost:** Certified for 20 years operation
- **Reduced Spare Inventory:** Universal Mounting (Stand Alone DIN-Rail, Power Bus System and Termination Boards)
- **Independent SIL certified Dual Ch.:** Dual power supply

Isolators, Signal Conditioners, Trip Amplifiers



D6000 SERIES STRENGTHS

- **SIL 2:** TÜV certification; according IEC 61508:2010, Ed.2
- **Reduced Foot Print:** High density: 1, 2, 4 or 8 ch.s each
- **Simplified Installation/Config.:** DIP switch configurability
- **Faster Reaction Time; Lower Down Time:** LED indication for power, signal status and line fault
- **Lower Ownership Cost:** Certified for 20 years operation
- **Reduced Spare Inventory:** Universal Mounting (Stand Alone DIN-Rail, Power Bus System and Termination Boards)
- **Improved Reliability:** Low power consumption and heat dissipation
- **Higher Reliability In & Outdoor:** Certified -40° to + 70° C
- RS-485 Mod-Bus output version available



Analog Input

GENERAL FEATURES



- Active or Passive Input; Sink or Source Output
- (0)4-20 mA current repeater
- Full three-way galvanic isolation: in/out/p.s.
- Hart Transparent
- Line monitoring operated by PLC/DCS AI Card
- Open circuit: current down to 0 mA
- Short circuit: current up to current limit



D5011, D6011 FEATURES

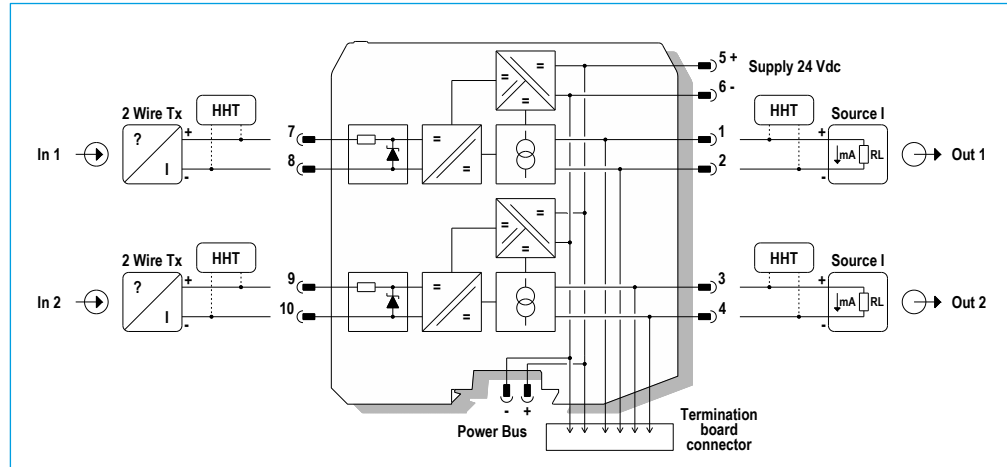


D5011



D6011

- 2-Wire 4 - 20 mA current repeater
- SIL 3 (IEC 61508) for D5011
- SIL 2 (IEC 61508) for D6011



Analog Input



D5014, D6014, D5015, D6015

FEATURES

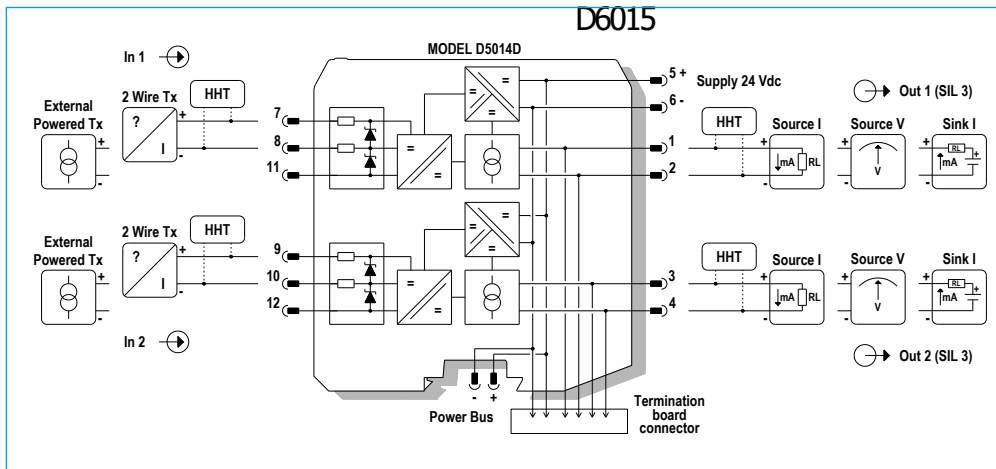


D5014/5



D6014/5

- 4 - 20 mA current repeater
- Passive/active transmitter
- Duplication available
- Source/sink current output
- Voltage output
- HART compatible
- SIL 3 (IEC 61508) for D5014
- SIL 2 (IEC 61508) for D5015, D6014, D6015



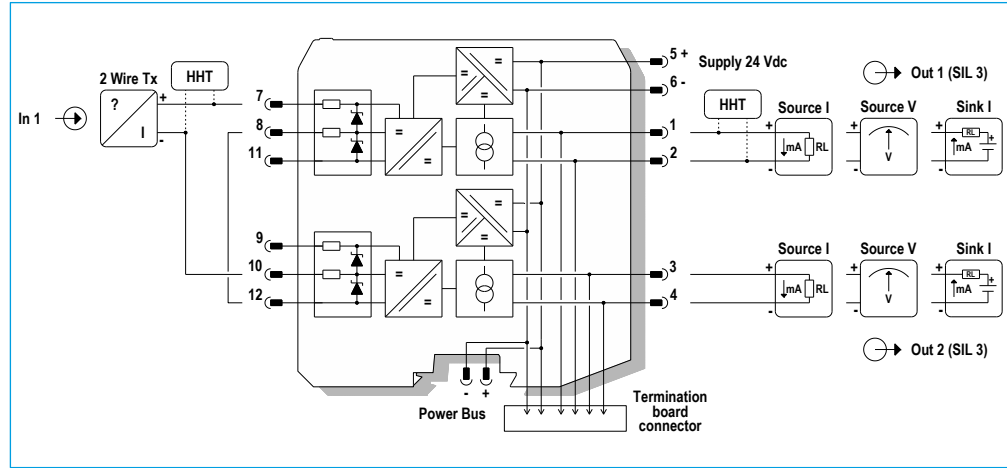
Analog Input



D5014D used as duplicator HIGH INTEGRITY APPLICATION



D5014D



Analog Input



D5212, D6212

FEATURES

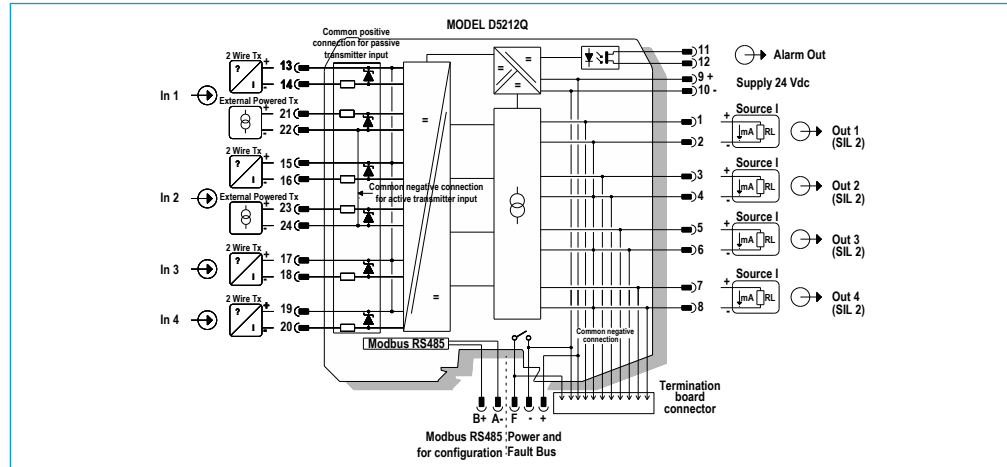


D5212



D6212

- 0/4 - 20 mA current repeater
- 4 Channels
- Fully configurable via PC (In-to-Out full multiplexing)
- Usable as Signal Splitter(x 2,3 or 4)
- Modbus supported
- Source/sink current output
- SIL 2 (IEC 61508)



Analog Input & Trip Amplifier

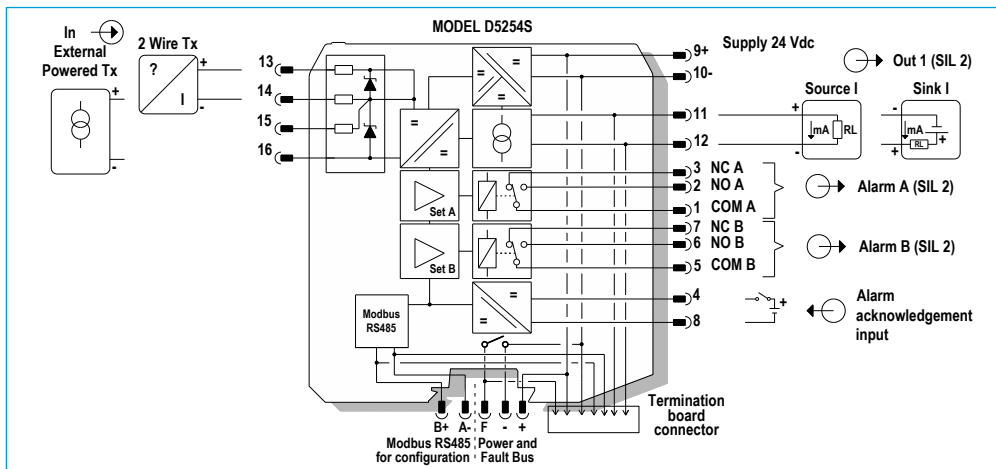


D5254 FEATURES



D5254

- 0/4 - 20 mA current repeater or voltage input ± 12 V
- Dual Trip amplifier
- Modbus supported
- Fully configurable via PC:
 - Full alarm configuration
 - Custom function on input
- SIL 2 (IEC 61508)



Analog Output



Analog Output

GENERAL FEATURES



- 4-20 mA current driver
- Full three-way galvanic isolation: in/out/p.s.
- Hart Transparent
- Full line monitoring
 - Open circuit
 - Short circuit

Analog Output



D5020, D6020

FEATURES

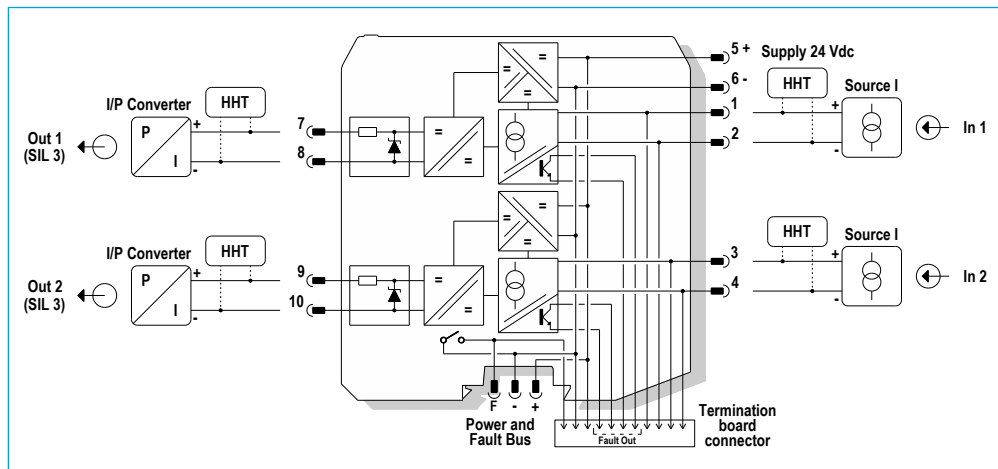


D5020



D6020

- 4 - 20 mA current driver
- HART compatible
- SIL 3 (IEC 61508) for D5020
- SIL 2 (IEC 61508) for D6020
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance
 - DI Contact (Single Ch Version)





Digital Input

GENERAL FEATURES



- Free-voltage contacts and proximity switches
- UP to 250 V – 4 Amps Output Rating
- Full three-way galvanic isolation: in/out/p.s.
- Full line monitoring
 - Open circuit
 - Short circuit

D5030, D6030 (Relay Output)

FEATURES

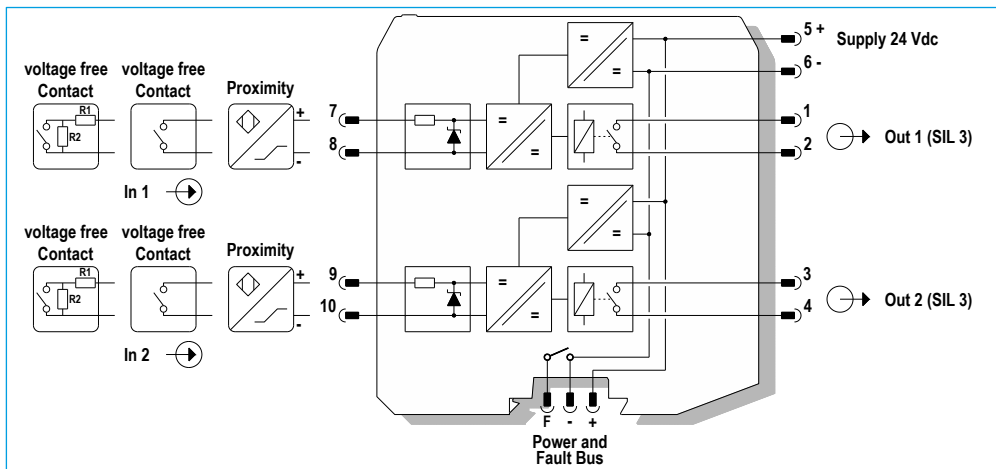


D5030



D6030

- Fault output or duplicator
- 250 Vac, 4 A contact rating
- SIL 3 (IEC 61508) for D5030
- SIL 2 (IEC 61508) for D6030
- Switch & Proximity
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance



D5031, D6031 (Voltage Free SS output)

FEATURES

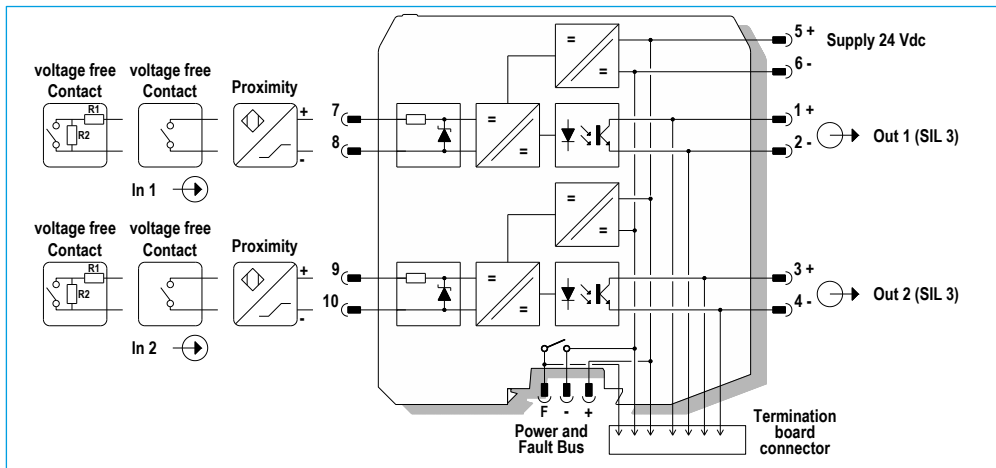


D5031



D6031

- Fault output or duplicator
- Up to 5 kHz
- SIL 3 (IEC 61508) for D5031
- SIL 2 (IEC 61508) for D6031
- Switch & Proximity
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance



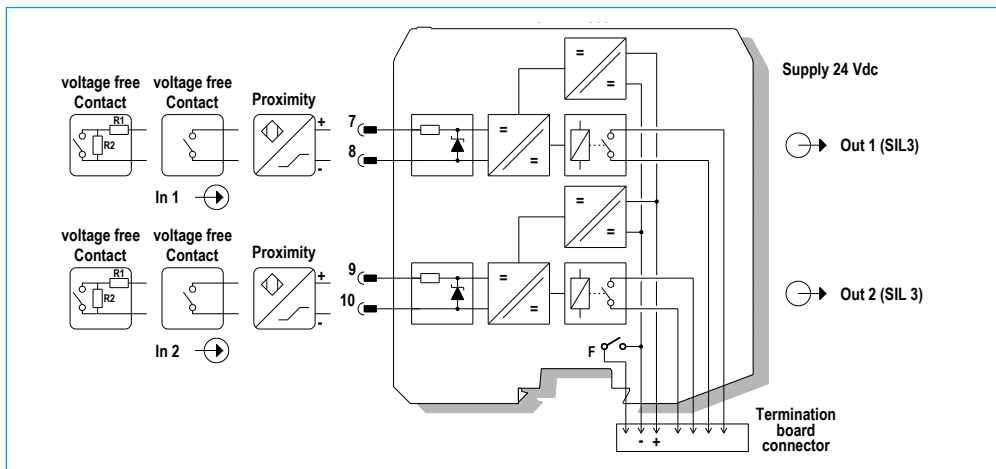
D5032 for TB (Relay Output)

FEATURES



D5032

- Fault output or duplicator
- 50 Vac, 100 mA cont. rating
- SIL 3 (IEC 61508)
- Switch & Proximity
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance



Digital
Input

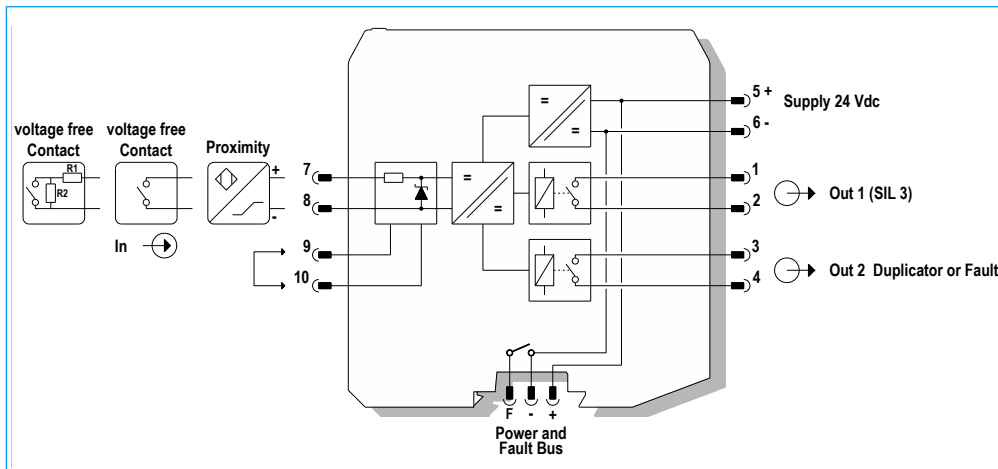


D503xD used as Duplicator/Fault Out

HIGH INTEGRITY APPLICATION



D503xD



D5034, D6034 (Current output)

FEATURES

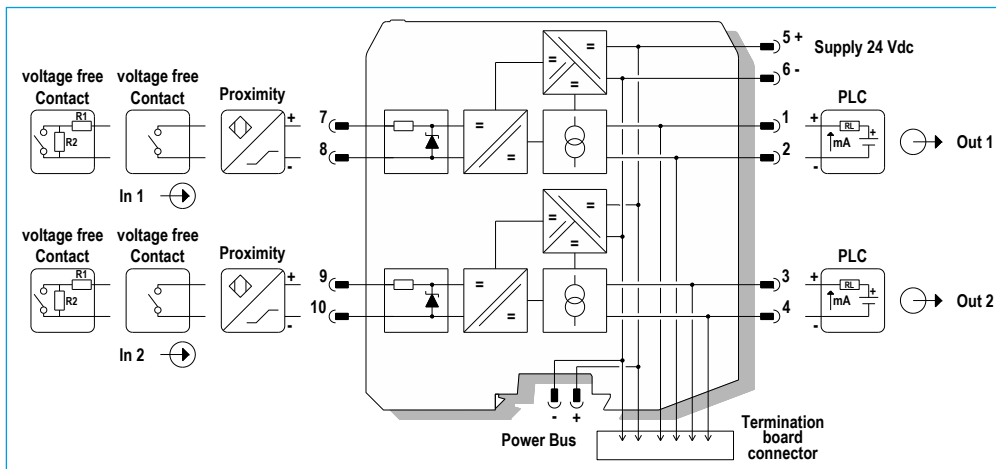


D5034



D6034

- Line monitoring available on single PLC/DCS DI card
- SIL 3 (IEC 61508) for D5034
- SIL 2 (IEC 61508) for D6034
- Switch & Proximity
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance



D5036, D6036 (Relay Output)

FEATURES

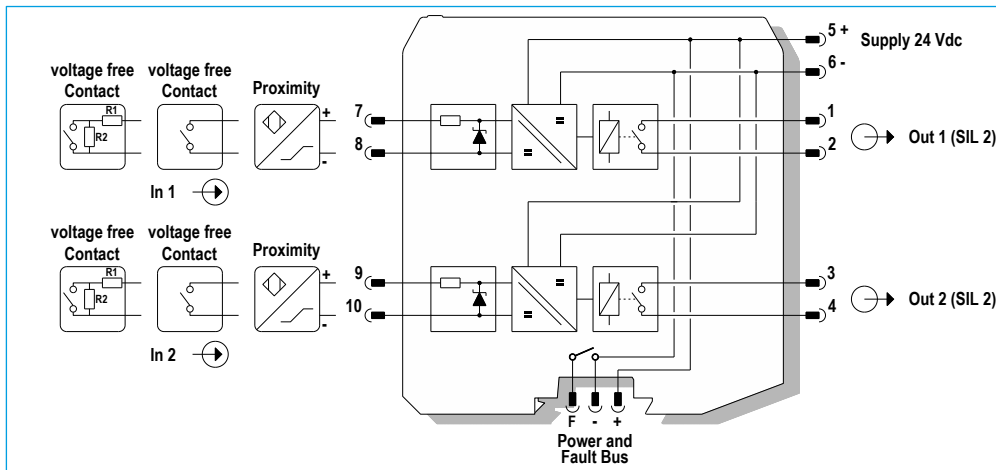


D5036



D6036

- 250 Vac, 4 A contact rating
- Fault output or duplicator
- SIL 2 (IEC 61508)
- Switch & Proximity
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance



D5037, D6037 (Voltage Free SS Output)

FEATURES

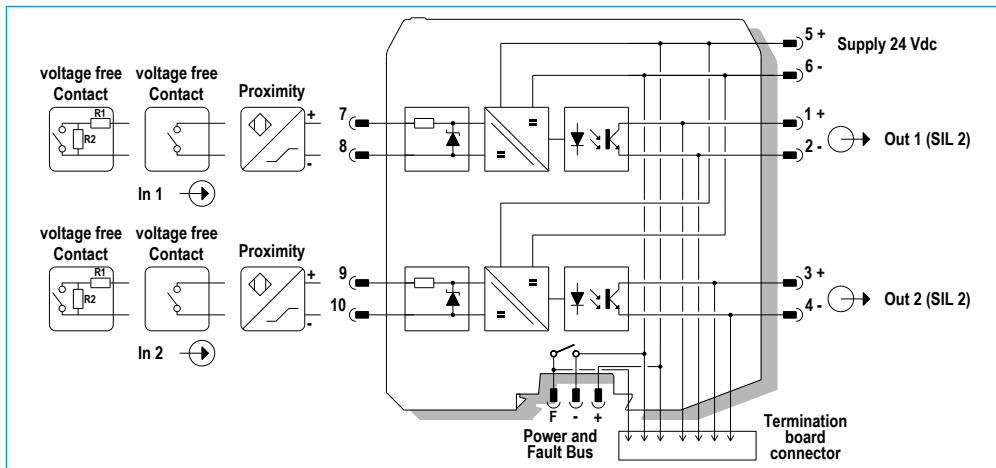


D5037



D6037

- Fault output or duplicator
- Up to 5 kHz
- SIL 2 (IEC 61508)
- Switch & Proximity
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance



Digital
Input



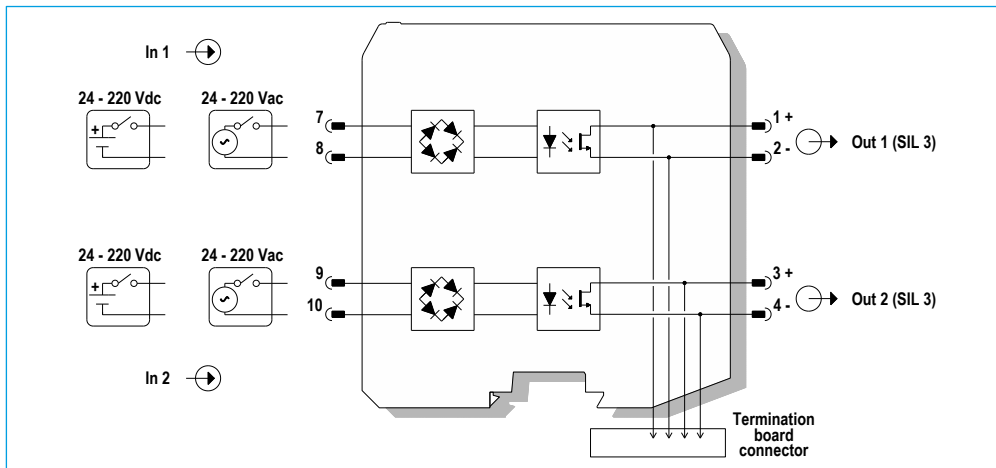
D5093 Switch Repeater

FEATURES

- 24 V to 220 Vac/Vdc Input
- Solid-state output relay (35 V, 50 mA)
- SIL 3 (IEC 61508)



D5093





D5231, D6231 FEATURES

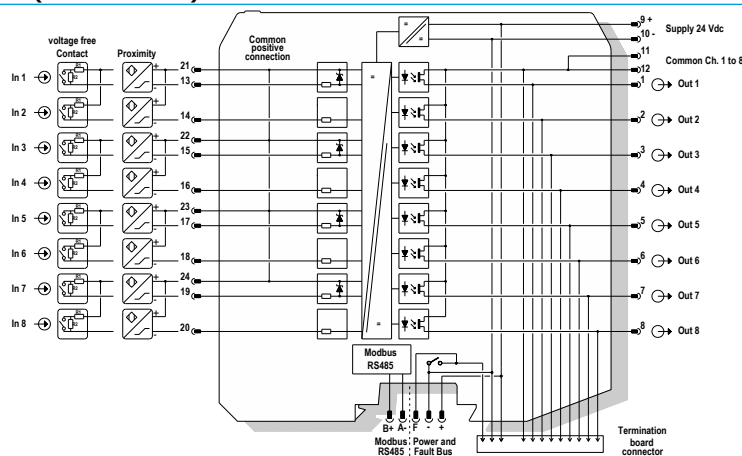


D5231



D6231

- Fully configurable via PC:
 - In-to-Out 8x8 full matrix
 - Input Multiplier (2 to 8)
 - Logic functions available
- Modbus supported
- SIL 2 (IEC 61508)
- Switch & Proximity
- Full line monitoring:
 - Open circuit: in high impedance
 - Short circuit: in high impedance





Digital Output

GENERAL FEATURES



- Digital output driver
- Full three-way galvanic isolation: in/out/p.s.
- Universal Selectable Power Outputs
- Full line monitoring
 - Open circuit
 - Short circuit

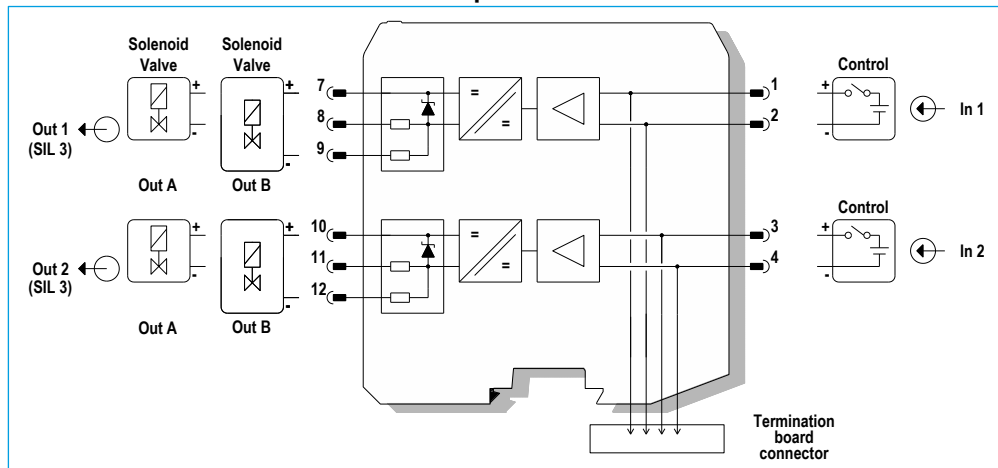
D5040

FEATURES



D5040

- Loop-powered output driver
- SIL 3 (IEC 61508)
- D5040S: 2 field conf. outputs
- D5040D: 5 field conf. outputs



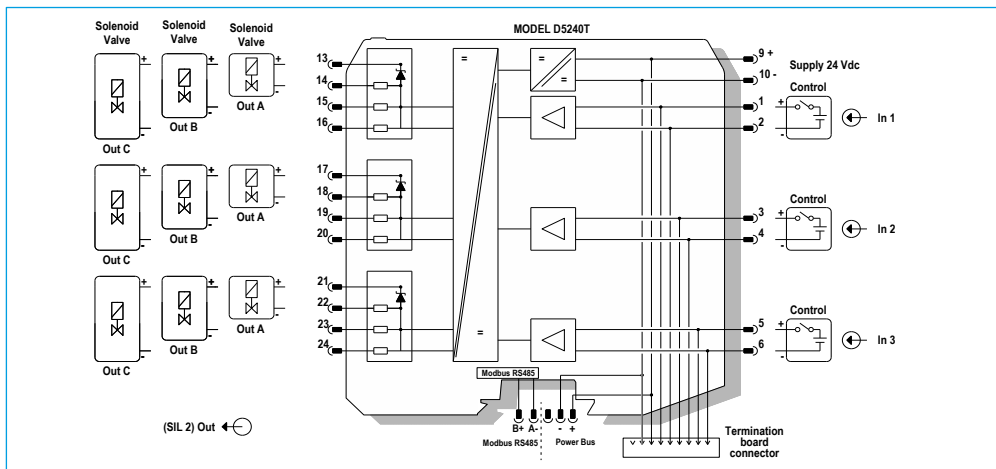
D5240

FEATURES



D5240

- Digital output driver
- 3 Channels
- Modbus supported
- SIL 2 (IEC 61508)
- Fully configurable via PC:
 - In-to-Out full multiplexing
- N° 11 field conf. outputs



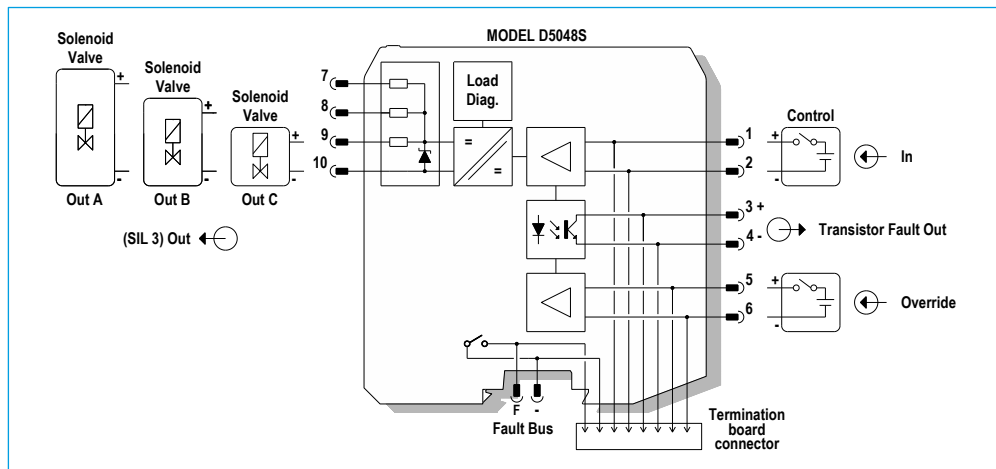
D5048

FEATURES



D5048

- Loop-powered output driver
- Fault on transistor output
- Over-ride available
- N° 3 Field configurable outputs
- Full line monitoring:
- Open circuit
- Short circuit
- SIL 3 (IEC 61508)



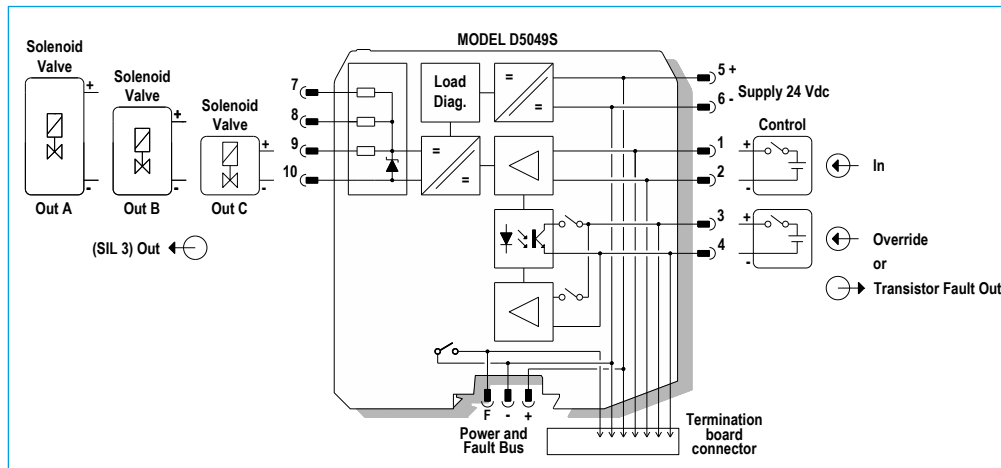
D5049

FEATURES



D5049

- Bus-powered output driver
- Fault on transistor output
- Over-ride available
- N° 3 Field configurable outputs
- Full line monitoring:
 - Open circuit
 - Short circuit
- SIL 3 (IEC 61508)





Temperature

GENERAL FEATURES



- Temperature Converters for TC & RTD
- Measure also mV, Resistance and Potentiometer
- Full three-way galvanic isolation: in/out/p.s.
- Full line/sensor/internal monitoring:
 - Programmable Burn-out on all wires
 - Sensor out of specification range
 - Internal fault

Temperature Converter



D5072, D6072

FEATURES

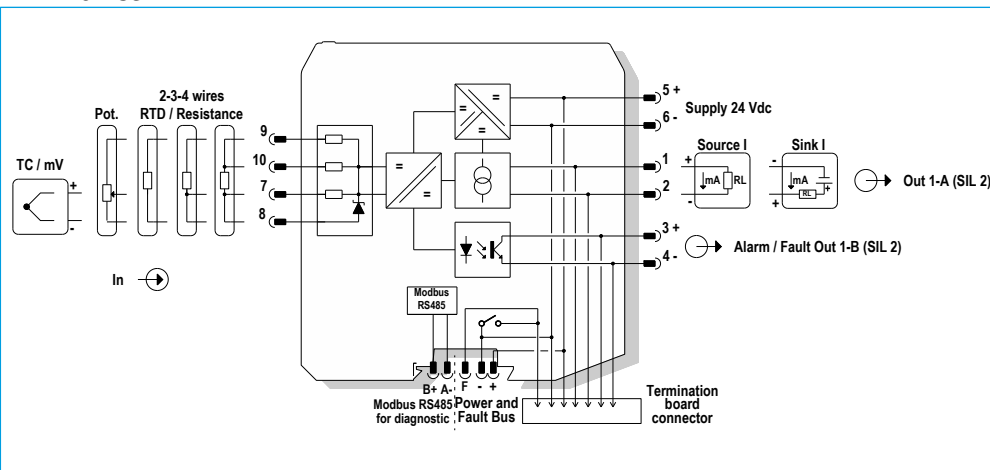


D5072



D6072

- Fully configurable via PC:
 - Input sensor (TC, RTD, POT)
 - Custom sensor supported
 - Analog output (source, sink)
 - Duplicator, +/-, max, min funct.
- Full line monitor (burn-out)
- Modbus supported
- SIL 2 (IEC 61508)
- Alarm available



Temperature Converter



D5072, D6072 FEATURES

Input configuration

Input 1

Sensor Connection: TC

Sensor Type: TC K Open

Downscale (°C): 0.0

Upscale (°C): 600.0

Cold Junction Source: Automatic

Cold Junction Reference (°C): 0.0

Integration Speed: slow 375 ms

Mains Frequency: 50 Hz

Offset (µV): 0

Multiplier: 1

Tag: Channel 1

Output configuration

Output 1

Function: Input 1 + Input 2

Type: 4-20 mA Source

Downscale (µA): 4000

Upscale (µA): 20000

Under Range (µA): 3600

Over Range (µA): 20800

Fault Output Value (µA): 22000

Fault in case of :

- ☒ Burnout
- ☐ Internal Fault
- ☐ Sensor Out Of Range
- ☐ Output Saturation
- ☐ Module Temperature Out Of Range

Sensor monitoring

Channel 1

Sensor Temperature (°C): 343.9

Cold Junction Temperature (°C): 26.8

Theoretical Output (µA): 13171

Alarm Status

Alarm B

Faults

- ☐ Burnout
- ☐ Internal Fault
- ☐ Output Saturation
- ☐ Sensor Out Of Range
- ☐ Module Temperature Out Of Range

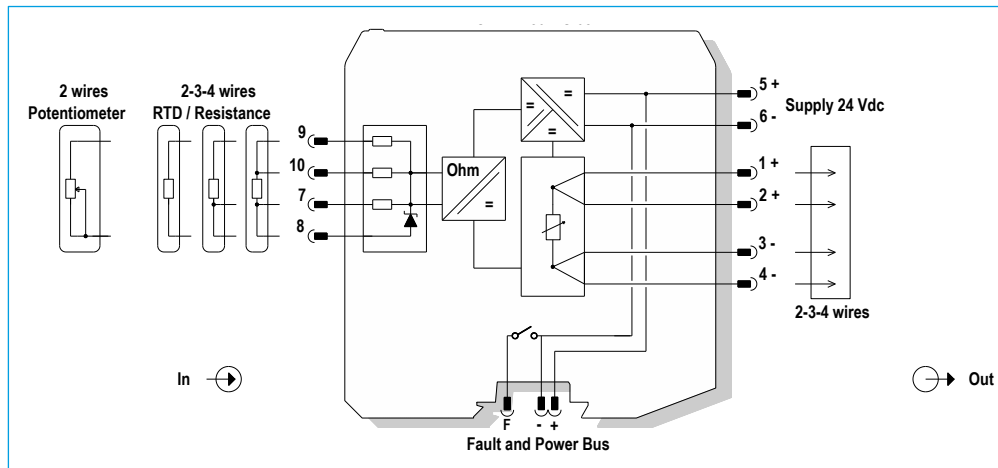
D5072-087, RTD to RTD

FEATURES



D5072-087

- RTD supported:
 - Pt50, Pt100
 - Ni100, Ni120
 - Cu10, Cu50, Cu53, Cu100
- 2/3/4 wire RTD supported
- Full line monitor (burn-out)
- SIL 2 (IEC 61508)



Temperature Converter & Trip Amplifier



D5273, D6273

FEATURES

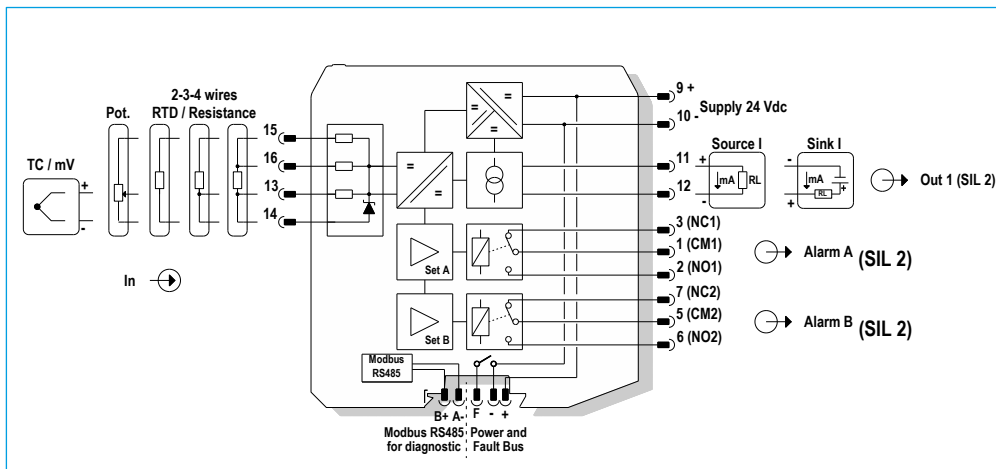
- Fully configurable via PC:
 - Input sensor (TC, RTD, pot)
 - Custom sensor supported
 - Analog output (source, sink)
 - Alarm thresholds and hyst.
 - Inputs functions (+/-, max, min)
- 2 Independent Alarms
- Full line monitor (burn-out)
- Modbus supported
- SIL 2 (IEC 61508)



D5273



D6273



Others
D5000



Others, D5000

GENERAL FEATURES



- Specific applications:
 - Frequency-pulse converter
 - Vibration transducer
 - Load cell
- Full three-port isolation: input/output/supply

Others
D5000



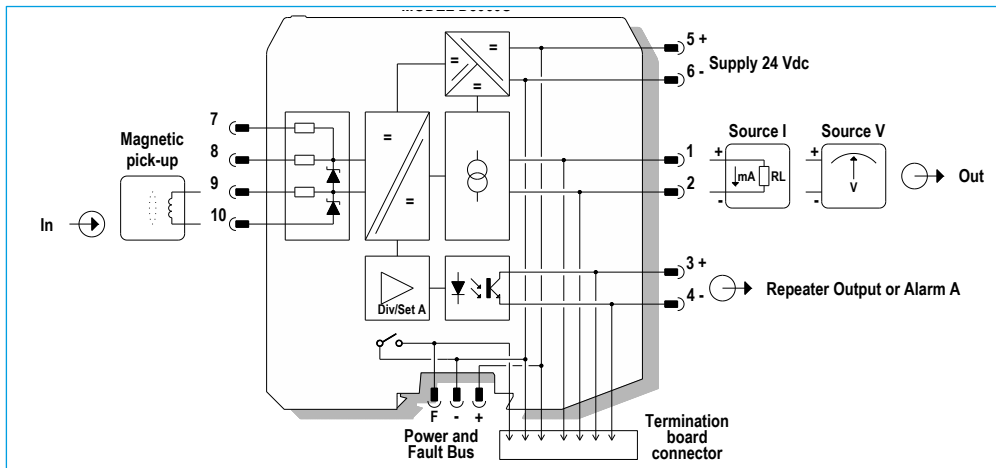
D5060 Freq-Pulse Conv. & Trip Amp.

FEATURES

- Magnetic Pick-up, cont., prox.
- Up to 50 kHz
- 4-20 mA current output
- Alarm output



D5060



Others
D5000



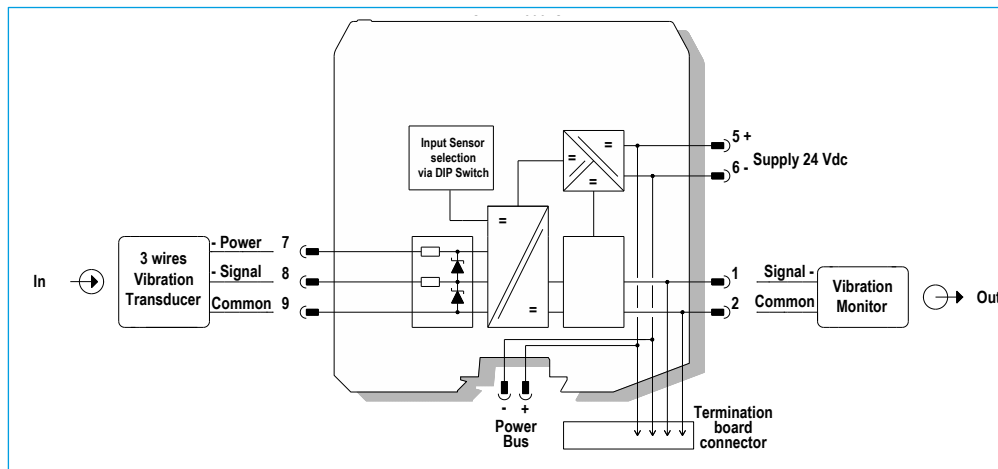
D5062 Vibration Transducer

FEATURES



D5062

- Input-output signal repeater
- -20 V to 0 V in/out
- 2/3 wires input supported
- Up to 20 kHz (1 dB)
- SIL 2 (IEC 61508)
- Bentley Nevada Compatible



D5263, D5264

FEATURES

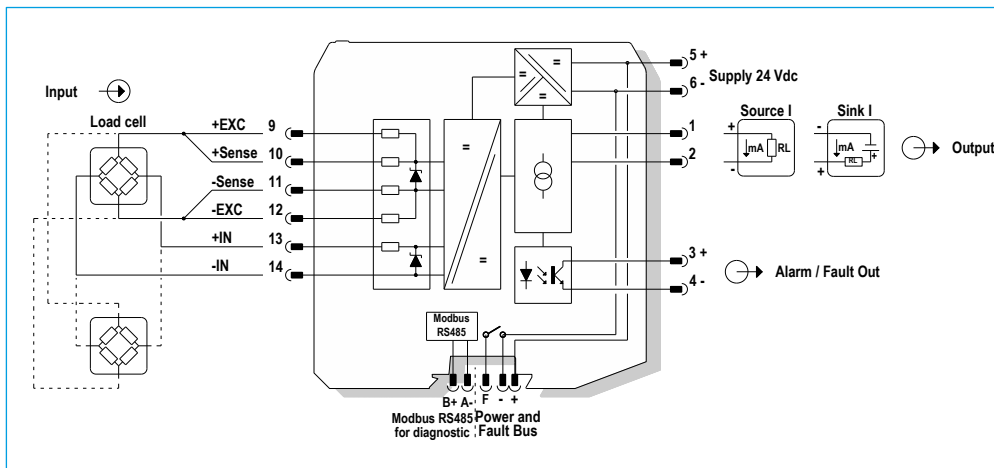
- Load Cell to Load Cell (D5263)
- Load Cell to mA (D5264)
- Fully configurable via PC
- Modbus supported
- Alarm available (D5264 only)
- Self, easy calibration



D5263



D5264



Company profile



Reference List

System vendors

- ABB
- EMERSON
- GEBHARDT AUTOMATION
- HIMA
- HONEYWELL
- ICS TRIPLEX
- INVENSYS
- SIEMENS
- SCHNEIDER
- ROCKWELL AUTOMATION
- YOKOGAWA

E.P.C.

- AMEC FOSTER WHEELER
- BECTEL
- FLUOR
- HHI
- JACOBS
- L&T
- MCDERMOTT
- NPCC
- SAIPEM
- PARSONS
- PETROFAC
- SK ENGINEERING
- SNC-LAVALIN
- TECNIMONT
- TECHNIP-FMC
- TR
- WORLEY

O.E.M.

- ABB OY DRIVES
- ACCAGEN SA
- APPLIED WEIGHING INT.
- BOBST GROUP
- CAMERON
- CANRIG DRILLING TECH.
- CLAMPON
- DRESSER RAND
- FMC
- GE
- HALLIBURTON
- HANLA LEVEL
- INKMAKER
- KONGSBERG SEATEX
- NOV
- PRECIAMOLEN
- SCHLUMBERGER
- SIEMENS IND. TURBINES
- SKANA KOREA HYDRA.
- WARTSILA NORWAY
- WEATHERFORD

End users

- 3M
- ADMA-OPCO
- AGIP
- ARAMCO
- BASF
- BHP
- BP
- CIBA GEIGY
- CAMERON
- ENEL
- ENI
- EXXON-MOBIL
- GASCO
- KOC / KNPC
- LOTOS
- ONGC
- ORLEN
- PFIZER
- SASOL
- SHELL
- SIRTE OIL
- STATOIL
- TOTAL



Safety, performance and reliability

OUR PRODUCTS, OUR COMMITMENT

GM International designs, engineers and manufactures a complete range of **Intrinsically Safe and SIL Certified Devices**.

For automation packages, DCS - ESD - FGS - BMS - HIPPS - PLC - SCADA - MARINE,

in several industrial sectors: Oil and Gas, Petrochemical, Pharmaceutical, Fertilizer, Mining, Food.

- **40 years of Experience**
founded in 1993,
former Elcon Instruments
- **100% Internal Production**
in State-of-the-Art facilities
near Milan, Italy
- **Global Player**
with presence in 5 continents



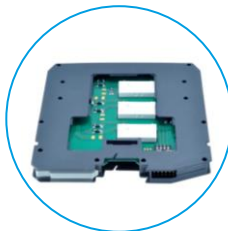
Company profile



GMI Safety Solutions



IS barriers



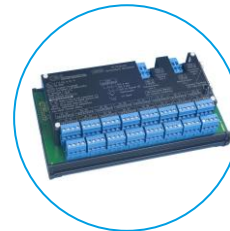
Safety Relays



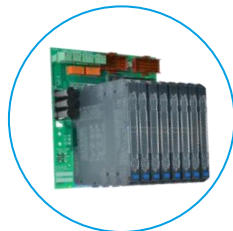
Isolators



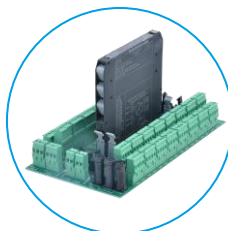
Power supplies



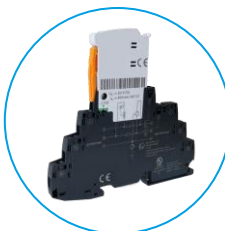
Multiplexers



Termination
Boards



HART Multiplexers



Surge protectors



Loop indicators



FS Training
and Services

Company profile



Quality and innovation

OUR GOALS

We guarantee the highest standard of quality

- All products that conform to the most severe specifications worldwide. Products Tested & Certified by over 15 independent Agencies & Laboratories TÜV certified Functional Safety Management, SIL3 Systematic Capabilities (SC).
- Over 15% of our employees dedicated to research and development for innovating products.
- 10% of turnover is re-invested in R&D
- 5 years warranty provided

