Remote Communication Interface RCI9H2 is intended to be used together with the Neles ValvGuard VG9000H intelligent safety solenoid. When 24 VDC output (DO) in the safety system or logic is used RCI9H2 is needed between the DO and VG9000H field device. The primary function of RCI9H2 is to convert binary signal to SIL 3 compatible 4/20mA current signal. RCI9H2 also provides relay outputs for monitoring the test and alarm status of the VG9000H and a discrete input for commanding VG9000H to start a PST (Partial Stroke Test). Additionally, RCI9H2 includes an isolator barrier and can be used in intrinsically safe applications.

RCI9H2 provides HART communication for diagnostics and configuration of the VG9000H. The HART communication is available when a 24 VDC power supply is connected, also during the emergency trip.

**FEATURES**
- 24 VDC input from ESD system
- 4/20 mA output to VG9000H
- Two status relays (test, alarm)
- PST start via separate input
- HART communication
- Isolated Ex barrier

**SIL 3 certificate**
RCI9H2 is approved by TÜV Rheinland to be used in safety applications up to and including safety integrity level 3 (SIL3) according to IEC 61508.
## Technical Specifications

### Safety (input) Signal:
- **Connection:** Terminals 19+, 20-
- **Signal Levels:**
  - 0-Signal: nominal 0V (-3 - 5V) (leakage <2 mA)
  - 1-Signal: nominal 24/48V (19 - 54 VDC)
- **Input Current:** 46.4mA at 24VDC, 47.9mA at 48VDC
- **Max Voltage:** 60 VDC
- **Polarity Protection:** -60 VDC
- **Over Voltage Protection:** 60 VDC

### Output to VG9000H:
- **Connection:** Terminals 2+, 3-
- **Output Current, Normal Mode:**
  - 0-Signal: nominal 4.2mA, (3.8 - 5.6 mA)
  - 1-Signal: nominal 20.5mA, (18-22 mA)
- **Output Current, Loop Powered Mode 1 (Power Supply Not Connected):**
  - 0-Signal: nominal 0 mA
  - 1-Signal: nominal 16.4 mA, (16-17 mA)
- **Output Current, Loop Powered Mode 2 (Power Supply Connected Parallel with the Safety Signal):**
  - 0-Signal: nominal 0 mA
  - 1-Signal: nominal 20.5 mA, (18-22 mA)
- **Maximum Load:** 596 Ω
- **Response Time:** Input to output <100 ms

### Power Supply:
- **Connection:** Terminals 16+, 17-
- **Input Voltage:**
  - 0-Signal: nominal 0V (-3 - 5V)
  - 1-Signal: nominal 24/48V (19 - 54 VDC)
- **Input Current:** 57.4 mA at 24 VDC, 30.7 mA at 48 VDC.
- **Max Voltage:** 60 VDC
- **Polarity Protection:** -60 VDC
- **Over Voltage Protection:** 60 VDC

### HART:
- **Connection:** Terminals 7-, 8+ (source)
  - Terminals 7+, 9- (sink)
- **Input Current:** Fixed at 11 mA, source or sink mode
- **Source Mode:** Output Votamx 24 VDC
  - External Load max 600 Ω
- **Sink Mode:**
  - Input Voltage: 24 VDC (nominal)
  - Internal Load: 230 Ω

### PST Start:
- **Connection:** Terminals 4+, 5-
- **Signal Level:**
  - 0-Signal: nominal 0V (-3 - 5V)
  - 1-Signal: nominal 24/48V (19 - 54 VDC)
- **Signal Type:** Rising edge active
- **Input Current:** 4.74 mA at 24 VDC, 9.47mA at 48 VDC
- **Max Voltage:** 60 VDC
- **Polarity Protection:** -60 VDC
- **Over Voltage Protection:** 60 VDC

### Testing Status:
- **Connection:** Terminals 13-14 open
  - Terminals 13-15 connected
- **Relay:** Type SPDT
  - Current 1A (max)
  - Voltage 24V (nominal)

### Alarm Status:
- **Connection:** Terminals 10-11 open
  - Terminals 10-12 connected
- **Relay:** Type SPDT
  - Current 1A (max)
  - Voltage 24V (nominal)

### Ambient Conditions:
- **Ambient Temperature Range:** -20° to +60 °C

### Mechanical Specifications:
- **Protection Degree:** IP20
- **Weight:** Approx. 215g
- **Dimensions:** 151.5 x 136.2 x 25.2 mm
- **Mounting:** On 35 mm DIN mounting rail acc. to EN 60715

### Data for Application in Connection with Ex-Areas:
- **ATEX/IECEx:** II (1)G [Ex ia Ga] IIC
- **Ex Values:**
  - Uo = 24.5 V
  - Io = 93.6 mA
  - Po = 595 mW
  - Co = 0.117 μF
  - Lo = 4.29 mH
- **Approvals:**
  - Safety: Certified by TUV Rheinland up to and including SIL3 according to IEC61508
  - IECEx: IECEx Sira 13.0014X
  - ATEX: Sira 13ATEX2026X
- **Electromagnetic Compatibility:** According to EN61326, EN61000-6-2, EN61000-6-4
### ADDITIONAL ACCESSORIES

#### Wiring connections

**Dimensions (mm)**

- 25.20
- 151.5
- 146.0
- 136.2
- 156.2