RECON® MODULAR CONTROL SYSTEM

For electrochemical protection systems (EPS) applications

Cathodic protection (CP) is a well established technique for corrosion protection of steel structures. Over the last decade, cathodic protection has gained very rapid acceptance for the protection of reinforced concrete structures suffering from chloride induced corrosion.

Manually operated systems have been used to deliverthe required CP current for steel and reinforced concrete structures.

The advances in communication technology has promoted the development of remote control systems for cathodic protection. These systems offer many advantages over manual systems with regard to data accuracy, remote control access and various levels of alarm functions.

The Savcor RECON system is one of the most advanced remote control systems for cathodic protection of concrete and steel structures. The system has been constructed using hi-tech, heavy duty modular components to provide long term performance in harsh environments.

The RECON control system can be controlled on site using a laptop computer or remotely using a desktop computer.

Any Recon system can also be fitted with an optional local touch screen to view current-, voltage- and potential information without additional equipment. Operator can also use the touch screen to easily switch the whole system or individual zones on or off.

SAVCOR

Advantages:

- The system is very easy to use. All system zoning voltage and current, reference electrode potential readings and the depolarisation decay values are presented in an easy to read format.
- The system has data recording and saving facilities which allow historical analysis of system performance to be undertaken, and consequently, more accurate system adjustments.
- The voltage, current and reference electrode “ON” and “Instant OFF” potential readings are carried out automatically which provide very high accuracy compared to manual systems. Interval between individual OFF measurements is user configurable.
- User configurable voltage– and potential limiters.
- The system has the facility for automatic data collection, data saving and automatic depolarisation tests at selected intervals.
- All saved cp related data and test result data can be easily exported from the system in MS Excel compatible format
- The system has programmable on/off recycling function for easy stray current testing.
- Any full or partial failure of the CP system can be detected easily by simply dialling into the system from a remote location and checking the main screen.
- The system components are modular which allows easy replacement of any faulty parts without the need of special electronic knowledge.

CE RoHS

RECON® MODULAR CONTROL SYSTEM

For electrochemical protection systems (EPS) applications

CONTROLLER

Module

Features:

- Built in Phoenix Contact ME 17.5 UT TBUS-case (blue).
- Installed on DIN-rail with Phoenix Contact ME 17.5 TBUS-connector.
- Power consumption +5V/100mA.
- Unisolated RS232 and isolated RS485 (Modbus) interfaces.
- Based on PIC18F2620-microcontroller.
- Four FRAM memories of 64 Kb.
- Real-time clock, backed up with Lithium battery.
- Operating temperature –25…55°C.

Terminals:

Terminal	Signal
1	RS485- (A)
2	N/A
3	RS484+ (A)
4	RS485- (B)
5	N/A
6	RS484+ (B)
7	GND
8	RS232 TX
9	RS232 RX
10	N/A
11	RS232 CD
12	N/A

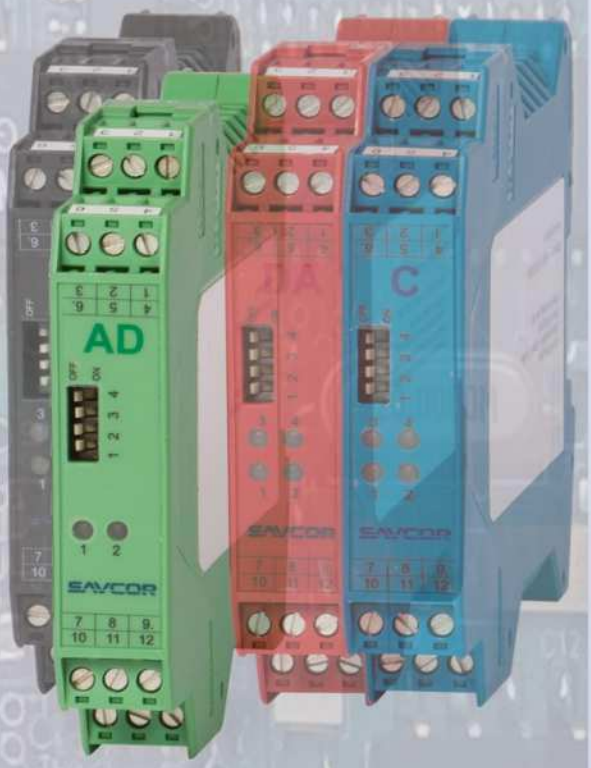
LEDs and switches:

#	Function
LED 1	Data on I²C-bus (green)
LED 2	Serial communication, Rx (green), Tx (amber)
LED 3	Timer for I²C-bus (green)
LED 4	Program runs (green), error (red)
Switch 1...4	Address selection (4 bits)

RECON® MODULAR CONTROL SYSTEM

For electrochemical protection systems (EPS) applications

AD
Module



Features:

- Built in Phoenix Contact ME 17.5 UT TBUS-case (green).
- Installed on DIN-rail with Phoenix Contact ME 17.5 TBUS-connector.
- Power consumption +5V/300mA.
- Based on PIC18F2620-microcontroller.
- 3 isolated and differential analog input channels (24bit).
- 3 selectable input ranges, ±320mV, ±5V and ±50V.
- Input impedance (for ranges above) >1GΩ, >500MΩ, 222kΩ.
- Operating temperature –25…55°C.

Terminals:

Terminal	Signal
1	N/A
2	N/A
3	N/A
4	N/A
5	Positive input for channel 1
6	Negative input for channel 1
7	N/A
8	Positive input for channel 2
9	Negative input for channel 2
10	N/A
11	Positive input for channel 3
12	Negative input for channel 3

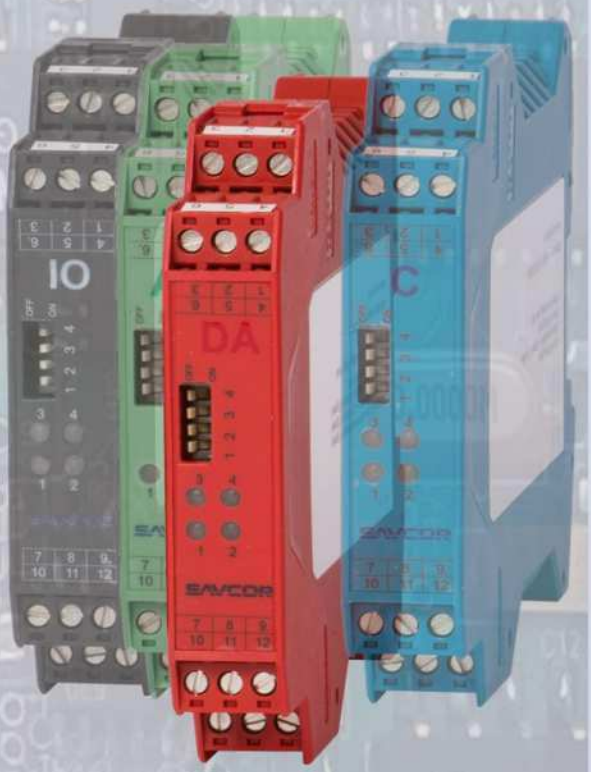
LEDs and switches:

#	Function
LED 1	Program runs (green), error (red)
LED 2	Data line for AD converters (green)
Switch 1...4	Address selection (4 bits)

RECON® MODULAR CONTROL SYSTEM

For electrochemical protection systems (EPS) applications

DA
Module



Features:

- Built in Phoenix Contact ME 17.5 UT TBUS-case (red).
- Installed on DIN-rail with Phoenix Contact ME 17.5 TBUS-connector.
- Power consumption +5V/600mA.
- Based on PIC18F2620-microcontroller.
- Three isolated analog output channels.
- Output ranges are 0-20mA, 4-20mA and 0-10V.
- 16bit DA converters.
- Operating temperature –25…55°C.

Terminals:

Terminal	Signal
1	N/A
2	N/A
3	N/A
4	Output of 0-10V for channel 1
5	Output of 0-20mA or 4-20mA for channel 1
6	GND
7	Output of 0-10V for channel 2
8	Output of 0-20mA or 4-20mA for channel 2
9	GND
10	Output of 0-10V for channel 3
11	Output of 0-20mA or 4-20mA for channel 3
12	GND

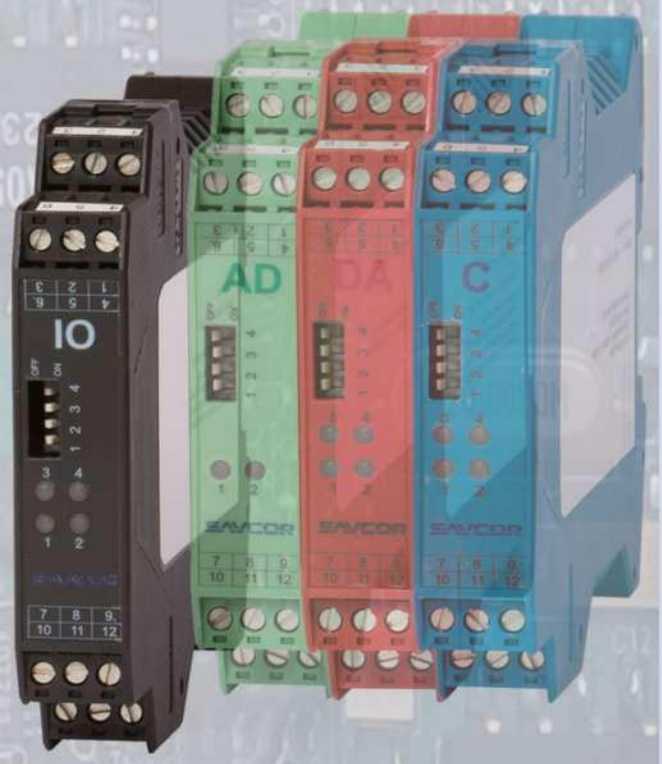
LEDs and switches:

#	Function
LED 1	Indicator for the current loop channel 1 (green)
LED 2	Indicator for the current loop channel 2(green)
LED 3	Indicator for the current loop channel 3 (green)
LED 4	Program runs (green), error (red)
Switch 1...4	Address selection (4 bits)

RECON® MODULAR CONTROL SYSTEM

For electrochemical protection systems (EPS) applications

IO
Module



Features:

- Built in Phoenix Contact ME 17.5 UT TBUS-case (black).
- Installed on DIN-rail with Phoenix Contact ME 17.5 TBUS-connector.
- Power consumption +5V/200mA.
- Based on PIC18F2620-microcontroller.
- 3 digital inputs
- 3 digital outputs.
- 2 relay outputs.
- Operating temperature –25…55°C.

Terminals:

Terminal	Signal
1	Relay 1 NO
2	Relay 2 NO
3	Relay 1 COM
4	IO0-
5	IN0+
6	IO0+
7	IN1+
8	IO1+
9	IO1-
10	Relay 2 COM / IN2+
11	IO2+
12	IO2-

LEDs and switches:

#	Function
LED 1	CH0 status (green)
LED 2	CH1 status (green)
LED 3	CH2 status (green)
LED 4	Program runs (green), error (red)
Switch 1...4	Address selection (4 bits)