SAKSHAM

Smart **A**daptive **K**ontrol **S**ystem for **H**uman **A**ssistance & **M**onitoring

Trusted by Industries, Driven by Performance.

Plot No. 33, Kh No. 620 & 621, Surya City, Opposite Indian Oil Petrol Pump, Takrohi, Indira Nagar, Lucknow (226016)
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MAKE IN INDIA

TPW INDUSTRIES LLP
Formerly known as JSH Technologies

Coming SOON - The **SARAL** Series

Next-Generation Controllers by TPW Industries LLP

Series-200 – SARAL Edge

Embedded Power for Real Industrial Control

🎯 **Target:** Small to Mid-size Machines, Industrial Pilots

⚙ Key Features

- Expandable I/O
- User Friendly

⭐ Selling Points

- Cost-effective + reliable
- Compact industrial controller
- Scalable for real-world deployments

Series-300 – SARAL Pro

Advanced PLC for Smart Factories

🎯 **Target:** Smart Factories, IIoT, SCADA Systems

⚙ Key Features

- OpenPLC on ARM/Intel processors
- Windows/Linux OS support
- Modular & networked I/O (EtherCAT, Modbus, OPC-UA
- All feature of Series-200

⭐ Selling Points

- Industry 4.0 ready
- SCADA & IIoT integration
- High-performance & flexible

Series-400 – SARAL Max

Full-Scale Industrial PLC with CODESYS Power

🎯 **Target:** Process Industries, Large Machines, Hybrid DCS Systems

⚙ Key Features

- CODESYS runtime (certified)
- Industrial processor platforms
- Full fieldbus: EtherCAT, Modbus TCP/IP, Profinet
- Windows/Linus OS
- All feature of Series-300

⭐ Selling Points

- Mission-critical grade reliability
- Wide fieldbus compatibility
- Trusted CODESYS ecosystem

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SAKSHAM

Smart Adaptive Kontrol System for Human Assistance & Monitoring

Trusted by Industries, Driven by Performance.

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SAKSHAM PLC

Smart **A**daptive **K**ontrol **S**ystem for **H**uman **A**ssistance & **M**onitoring

WHAT WE BRING TO INDUSTRY

- Smart PLCs built for precision and control.
- Automation solutions tailored to your needs.
- Advanced tech like IoT and AI for smarter systems.
- Custom tools to boost factory efficiency.
- Reliable service that keeps you running.

SAKSHAM PLATFORM

"EMPOWERING AUTOMATION WITH PRECISION"

HIGH-END PLC

SERIES-S800

ENTRY-LEVEL PLC

SERIES-S700

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TPW INDUSTRIES LLP

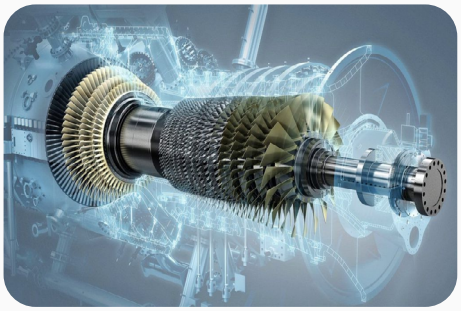
2 DECADES OF EXPERIENCE

OUR VALUE-DRIVEN SOLUTIONS

PMOPT - PAPER MACHINE OPTIMIZATION SYSTEM

- **PMOPT** – An optimization system for pulp & paper machines.
- Powered by proprietary **Model Predictive Control (MPC) & proprietary Advanced Process Control (APC)** for precise recipe management and minimal human Intervention.
- 2-Sigma integration ensures tighter control over quality, speed, and energy use maximizing ROI.

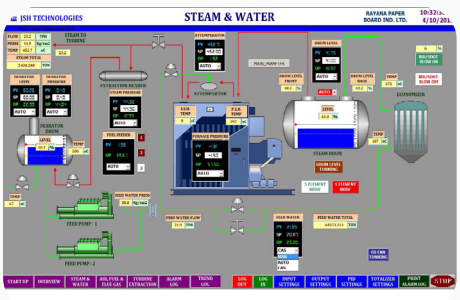
TURVEX - TURBINE EXHAUST ZONE VISUALIZATION & MONITORING



- Real-time monitoring of turbine exhaust pressure & flow to enforce OEM-defined safe zones
- Prevents turbine damage, downtime, and warranty violations due to unsafe exhaust zone residency
- Deployed in thermal **power plants** using existing sensors (no new field instrument)

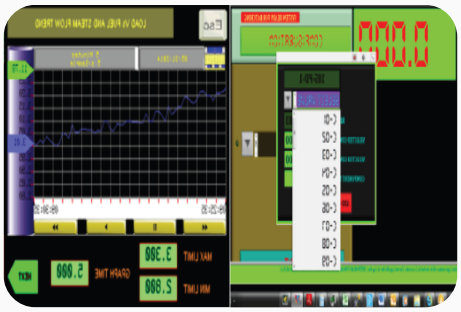
BCEOPT - BOILER CONTROL EFFICIENCY OPTIMIZATION SYSTEM

- Designed for power plants, it optimizes combustion, steam, and feed-water with real-time intelligent control.
- Equipped with proprietary **Model based Predictive Control (MPC)** & proprietary **Advanced Process Control (APC)** for dynamic fuel-air adjustment–no manual tuning or static curves required write more concise
- Saves 1-1.5% fuel, ensures stable operation, and lowers maintenance for higher ROI.



OUR VALUE-DRIVEN SOLUTIONS

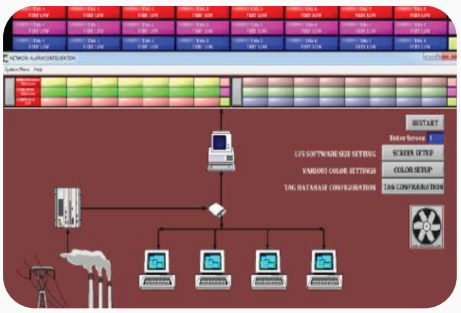
BATCHING AUTOMATION SYSTEM



- Built for the automobile industry, Automates mixing with high accuracy.
- Operator intervention only in setup, recipe selection, and errors.
- Producing identical items in set quantities with stepwise processing and quality checks at each stage.
- Solution Deployed at some automation industry
- Powered by proprietary APC for optimized multi variable control and dosing precision

PAAS - PROCESS ALARMING &ANNUNCIATION SOFTWARE

- By emerging India's owned third-party alarm annunciation software **PAAS (Process Alarming & Annunciation Software)**.
- We are able to facilitate plant operator for each and every process criticality as per ISA-18.1 for Alarm annunciation sequence.
- PAAS Software for alarm annunciation on Large Video Screens (LVS) is developed to integrate with any DCS/PLC having OPC Client/Server connectivity.



BAGGING APPLICATION SOFTWARE

- Automates weighing, filling and packing for precise, consistent output.
- Used in sugar, cement, grain and chemical industries to reduce manual effort and increase efficiency.
- Solution Deployed at few Sugar Plant.
- Automates weighing and filling with proprietary APC (Advanced Process Control) for high accuracy and zero manual input.

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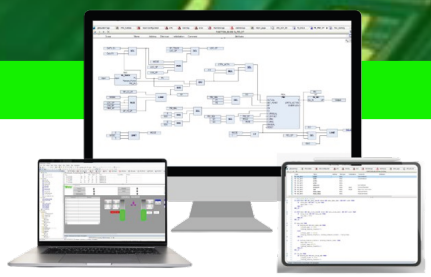
SAKSHAM PLC

S800 SERIES

SAKSHAM

AI16 [S830-16C00CV04G04GIND]

16 Channel Analog Input Module



The analog input module is an essential component of our PLC system, designed to seamlessly integrate analog signals into automation processes. It interfaces with various external devices such as sensors, transmitters, variable frequency drives (VFDs), and transducers allowing precise monitoring and control of critical operations within the plant.

This model offers 16 channels and incorporates galvanic isolation across four groups of four channels each, ensuring reliable performance and enhanced safety across all connected systems.

- No. of Analog Inputs : 16 Channels
- Type of Analog Input : 0-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 04 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Input FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Analog Input Module
Product Code: AI16 [S830-16C00CV04G04GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	16 channels
Type of Analog Input	:	0/4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	04 Groups
Channel In One Groups	:	04 Channel/Groups
Input Short-Circuit Protection	:	Yes For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.5 A
Input Current Per Channel Permissible	:	25 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Measuring Range	:	Scalable
Input Resistance	:	120 Ω

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes (for mA Channel only)
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation) In Groups of 4 Channel
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

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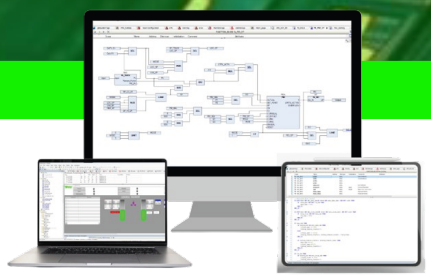
AI16 [S830-14C02CV04G04GIND]

16 Channel Analog Input Module



The analog input module is an essential component of our PLC system, designed to seamlessly integrate analog signals into automation processes. It interfaces with various external devices such as sensors, transmitters, variable frequency drives (VFDs), and transducers allowing precise monitoring and control of critical operations within the plant.

This model offers 16 channels and incorporates galvanic isolation across four groups of four channels each, ensuring reliable performance and enhanced safety across all connected systems.

- No. of Analog Inputs : 16 Channels
- Type of Analog Input : 14 Nos 0/4-20 mA, 2 Nos. mA / Voltage Selectable
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 04 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx
- Released Date : From July 22

Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Input FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Analog Input Module
Product Code: AI16 [S830-14C02CV04G04GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	16 channels
Type of Analog Input	:	14 Nos 0/4-20 mA 2 Nos. mA/Voltage Selectable
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	04 Groups
Channel In One Groups	:	04 Channel/Groups
Input Short-Circuit Protection	:	Yes For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.5 A
Input Current Per Channel Permissible	:	25 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Input Range	:	0-10 V
Input Range	:	1-10 V
Input Range	:	0-10 mA
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection
Input Impedance	:	10k ohm in Voltage Selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes (for mA Channel only)
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation) In Groups of 4 Channel
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

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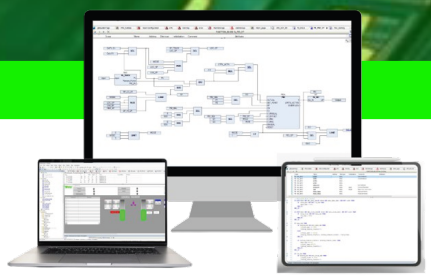
AI16 [S830-12C04CV04G04GIND]

16 Channel Analog Input Module



The analog input module is an essential component of our PLC system, designed to seamlessly integrate analog signals into automation processes. It interfaces with various external devices such as sensors, transmitters, variable frequency drives (VFDs), and transducers allowing precise monitoring and control of critical operations within the plant.

This model offers 16 channels and incorporates galvanic isolation across four groups of four channels each, ensuring reliable performance and enhanced safety across all connected systems.

- No. of Analog Inputs : 16 Channels
- Type of Analog Input : 12 Nos 0/4-20 mA, 4 Nos. mA / Voltage Selectable
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 04 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Input FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Analog Input Module
Product Code: AI16 [S830-12C04CV04G04GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	16 channels
Type of Analog Input	:	12 Nos 0/4-20 mA 4 Nos. mA/Voltage Selectable
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	04 Groups
Channel In One Groups	:	04 Channel/Groups
Input Short-Circuit Protection	:	Yes For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.5 A
Input Current Per Channel Permissible	:	25 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Input Range	:	0-10 V
Input Range	:	1-10 V
Input Range	:	0-10 mA
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection
Input Impedance	:	10k ohm in Voltage Selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes (for mA Channel only)
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation) In Groups of 4 Channel
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

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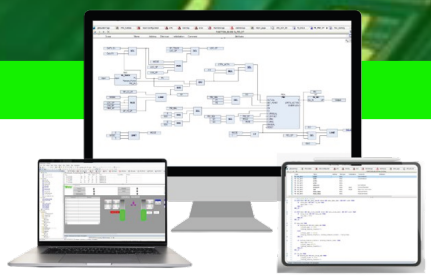
AI16 [S830-16C00CV01G16GIND]

16 Channel Analog Input Module



The analog input module is an essential component of our PLC system, designed to seamlessly integrate analog signals into automation processes. It interfaces with various external devices such as sensors, transmitters, variable frequency drives (VFDs), and transducers allowing precise monitoring and control of critical operations within the plant.

This model offers 16 channels and incorporates galvanic isolation across four groups of four channels each, ensuring reliable performance and enhanced safety across all connected systems.

- No. of Analog Inputs : 16 Channels
- Type of Analog Input : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 1
- Channels In One Group : 16 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Input FTA
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TPW INDUSTRIES LLP

Product Name:16 Channel Analog Input Module
Product Code: AI16 [S830-16C00CV01G16GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	16 channels
Type of Analog Input	:	0/4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	01 Groups
Channel In One Groups	:	16 Channel/Groups
Input Short-Circuit Protection	:	Yes For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.5 A
Input Current Per Channel Permissible	:	25 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes (for mA Channel only)
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	No
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

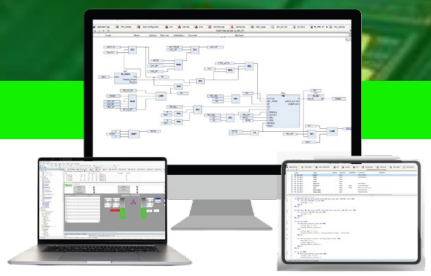
Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

SAKSHAM

AI16 [S830-16C00CV04G04GINDCC]

16 Channel Analog Input Module



The analog input module is an essential component of our PLC system, designed to seamlessly integrate analog signals into automation processes. It interfaces with various external devices such as sensors, transmitters, variable frequency drives (VFDs), and transducers allowing precise monitoring and control of critical operations within the plant.

This model offers 16 channels and incorporates galvanic isolation across four groups of four channels each, ensuring reliable performance and enhanced safety across all connected systems.

- No. of Analog Inputs : 16 Channels
- Type of Analog Input : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 4 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx
- Conformal Coating : G1, G2 & G3

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Input FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Analog Input Module
Product Code: AI16 [S850-16C00CV04G04GINDCC]

Rev.: 00

General Information

No. of Analog Inputs	:	16 channels
Type of Analog Input	:	0/4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	04 Groups
Channel In One Groups	:	04 Channel/Groups
Input Short-Circuit Protection	:	Yes For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.5 A
Input Current Per Channel Permissible	:	25 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes (for mA Channel only)
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation) In Groups of 4 Channel
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

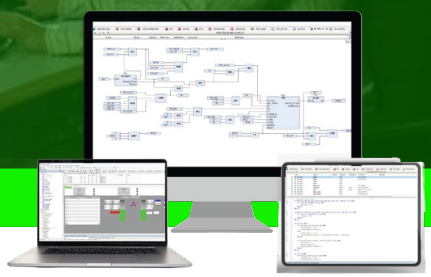
Environmental Protection

Conformal Coating	:	G1, G2 & G3

SAKSHAM

AO16 [S850-16C00V16G01GIND]

16 Channel Analog Output Module



Analog output modules are vital in PLC systems, enabling precise control and regulation of devices and machinery. Selecting the right module depends on application needs, signal integrity, and integration complexity. When properly implemented, they enhance system efficiency, reliability, and productivity.

This 16-channel analog output module offers superior performance with complete galvanic isolation across all channels, ensuring outstanding noise immunity and stable operation even in demanding industrial environments, making it ideal for precision control applications.

- No. of Analog Outputs : 16 Channels
- Type of Analog Output : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 16
- Channels In One Group : 1 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 370 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 100 g approx

CODESYS Hot Swappable

Fast and Easy Integration

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Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Output FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Analog Output Module
Product Code: AO16 [S850-16C00V16G01GIND]

Rev.: 00

General Information

No. of Analog Outputs	:	16 channels
Type of Analog Outputs	:	0/4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	16 Groups
Channel In One Groups	:	1 Channel/Groups
Input Short-Circuit Protection	:	Yes, For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.5 A
Input Current Per Channel Permissible	:	25 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W
Load Resistance	:	370 Ω, Max

Range

Output Range	:	0-20 mA
Output Range	:	4-20 mA
Range	:	Scalable

Oscillation Time

Resistive Load	:	0.5 ms
Capacitive Load	:	1 ms
Inductive Load	:	1 ms

Connection of Actuator

Two Wire Connection, Current O/P	:	Yes

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)
Substitute Value Can Applied	:	Yes
Crosstalk Between Outputs	:	-50 db

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Diagnostic Alarm	:	Yes
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	No
Short-Circuit	:	No
Channel Diagnostics	:	No

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	370 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	100g Approx

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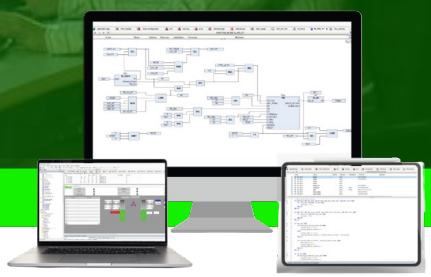
AO16 [S850-16C00V1G016GIND]

16 Channel Analog Output Module



Analog output modules are vital in PLC systems, enabling precise control and regulation of devices and machinery. Selecting the right module depends on application needs, signal integrity, and integration complexity. When properly implemented, they enhance system efficiency, reliability, and productivity. This 16-channel analog output module offers superior performance with complete galvanic isolation across all channels, ensuring outstanding noise immunity and stable operation even in demanding industrial environments, making it ideal for precision control applications.

- No. of Analog Outputs : 16 Channels
- Type of Analog Output : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 1
- Channels In One Group : 16 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 370 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 100 g approx

Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Output FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Analog Output Module
Product Code: AO16 [S850-16C00V1G016GIND]

Rev.: 00

General Information

No. of Analog Outputs	:	16 channels
Type of Analog Outputs	:	0/4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	1 Groups
Channel In One Groups	:	16 Channel/Groups
Input Short-Circuit Protection	:	Yes, For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.5 A
Input Current Per Channel Permissible	:	25 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W
Load Resistance	:	370 Ω, Max

Range

Output Range	:	0-20 mA
Output Range	:	4-20 mA
Range	:	Scalable

Oscillation Time

Resistive Load	:	0.5 ms
Capacitive Load	:	1 ms
Inductive Load	:	1 ms

Connection of Actuator

Two Wire Connection, Current O/P	:	Yes

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)
Substitute Value Can Applied	:	Yes
Crosstalk Between Outputs	:	-50 db

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Diagnostic Alarm	:	Yes
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	No
Short-Circuit	:	No
Channel Diagnostics	:	No

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	370 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

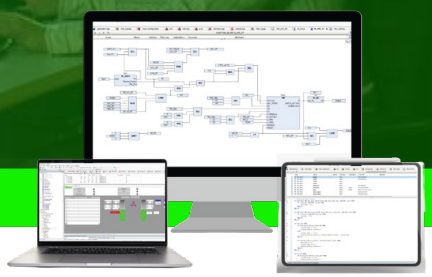
Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	100g Approx

SAKSHAM

AO16 [S850-16C00V16G01GINDCC]

16 Channel Analog Output Module



Analog output modules are vital in PLC systems, enabling precise control and regulation of devices and machinery. Selecting the right module depends on application needs, signal integrity, and integration complexity. When properly implemented, they enhance system efficiency, reliability, and productivity.
This 16-channel analog output module offers superior performance with complete galvanic isolation across all channels, ensuring outstanding noise immunity and stable operation even in demanding industrial environments, making it ideal for precision control applications.

- No. of Analog Outputs : 16 Channels
- Type of Analog Output : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 16
- Channels In One Group : 1 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 370 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 100 g approx
- Conformal Coating : G1, G2 & G3

Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Output FTA
- Prefab Cable

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Product Name:16 Channel Analog Output Module
Product Code: AO16 [S850-16C00V16G01GINDCC]

Rev.: 00

General Information

No. of Analog Outputs	:	16 channels
Type of Analog Outputs	:	0/4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	16 Groups
Channel In One Groups	:	1 Channel/Groups
Input Short-Circuit Protection	:	Yes, For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	350 mA
Current Per Channel Per-missible	:	21.5 mA
Power Loss	:	Less than 1 W
Load Resistance	:	370 Ω, Max

Range

Output Range	:	0-20 mA
Output Range	:	4-20 mA
Range	:	Scalable

Oscillation Time

Resistive Load	:	0.5 ms
Capacitive Load	:	1 ms
Inductive Load	:	1 ms

Connection of Actuator

Two Wire Connection, Current O/P	:	Yes

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)
Substitute Value Can Applied	:	Yes
Crosstalk Between Outputs	:	-50 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Diagnostic Alarm	:	Yes
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	No
Short-Circuit	:	No
Channel Diagnostics	:	No

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	100g Approx

Environmental Protection

Conformal Coating	:	G1, G2 and G3

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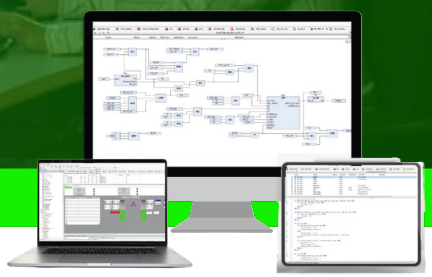
AO08 [S850-08C00V08G01GINDCC]

08 Channel Analog Output Module



Analog output modules are vital in PLC systems, enabling precise control and regulation of devices and machinery. Selecting the right module depends on application needs, signal integrity, and integration complexity. When properly implemented, they enhance system efficiency, reliability, and productivity. This 08-channel analog output module offers superior performance with complete galvanic isolation across all channels, ensuring outstanding noise immunity and stable operation even in demanding industrial environments, making it ideal for precision control applications.

- No. of Analog Outputs : 08 Channels
- Type of Analog Output : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 08
- Channels In One Group : 1 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 370 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 100 g approx
- Conformal Coating : G1, G2 & G3

Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Output FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:08 Channel Analog Output Module
Product Code: AO08 [S850-08C00V08G01GINDCC]

Rev.: 00

General Information

No. of Analog Outputs	:	08 channels
Type of Analog Outputs	:	0/4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	08 Groups
Channel In One Groups	:	1 Channel/Groups
Input Short-Circuit Protection	:	Yes, For Each Channel (For mA Channel only)
Input Over-Current Protection	:	Yes (40 mA)

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	190 mA
Current Per Channel Per-missible	:	21.5 mA
Power Loss	:	Less than 1 W
Load Resistance	:	370 Ω, Max

Range

Output Range	:	0-20 mA
Output Range	:	4-20 mA
Range	:	Scalable

Oscillation Time

Resistive Load	:	0.5 ms
Capacitive Load	:	1 ms
Inductive Load	:	1 ms

Connection of Actuator

Two Wire Connection, Current O/P	:	Yes

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)
Substitute Value Can Applied	:	Yes
Crosstalk Between Outputs	:	-50 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available
Diagnostic Alarm	:	Yes
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Wire-Break	:	No
Short-Circuit	:	No
Channel Diagnostics	:	No

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	100g Approx

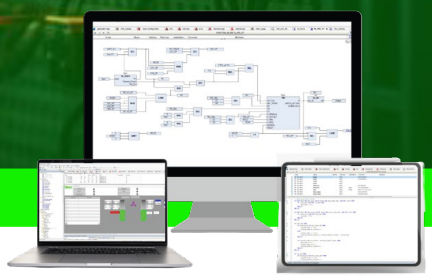
Environmental Protection

Conformal Coating	:	G1, G2 and G3

SAKSHAM

DI32 [S810-32SK04G08GIND]

32 Channel Digital Input Module



Digital inputs are key players in a variety of industrial applications, making them super important for today's automation systems. Our digital input modules work hand-in-hand with PLCs to manage all sorts of field components effortlessly. They pick up signals from field sensors, switches, and other devices, ensuring you get accurate and timely data every time. With 32 channels divided into 4 groups of 8 channels each, our digital input modules are designed for optimal performance and reliability in your industrial automation projects.

- No. of Digital Inputs : 32 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 8 Channel/Group
- Digital Inputs : Yes
- For "0" Signal : Up to 5 V DC
- For "1" Signal : 15 V DC To 28 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 140 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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For Further Details - +919455730147 | +919935837444 | jshtech@jshtech.in
Visit Us: www.tpw-saksham.com

TPW INDUSTRIES LLP

Product Name:32 Channel Digital Input Module
Product Code: DI32 [S810-32SK04G08GIND]

Rev.: 00

General Information

No. of Digital Inputs	:	32 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	4 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

Digital Inputs	:	Yes
Counter	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	0.75 W

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Inputs

Number of digital Inputs	:	32
Digital Input Parameterizable	:	Yes
Source/Sink Input	:	Sink/Source
Input Characteristics Curve as per IEC-61131	:	Yes

Input Voltage

Rated Voltage	:	24 V DC
For 0 Signal	:	Up to 5 V DC
For 1 Signal	:	15 V DC To 28 V DC

Input Current

For "1" Signal	:	2 mA (max 20 mA)

Delay In Input For Rated Voltage

Parameterizable	:	Yes
From 0 To 1	:	Max 0.5 ms
From 1 To 0	:	Max 15 ms

LED

Power Indication	:	Yes
Channel Status	:	Yes
Fuse Blown	:	Yes
Back-Plane Communication	:	Yes

Potential Separation

Separation Between Channel	:	Yes in Groups of 8 Channel
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

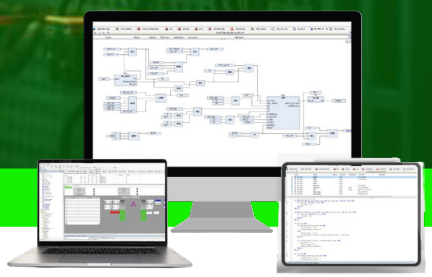
Other Information

Cable Length Max.	:	500 m
Address Space per Module	:	2 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

SAKSHAM

DI32 [S810-32SK04G08GINDCC]

32 Channel Digital Input Module



Digital inputs are key players in a variety of industrial applications, making them super important for today's automation systems. Our digital input modules work hand-in-hand with PLCs to manage all sorts of field components effortlessly. They pick up signals from field sensors, switches, and other devices, ensuring you get accurate and timely data every time. With 32 channels divided into 4 groups of 8 channels each, our digital input modules are designed for optimal performance and reliability in your industrial automation projects.

- No. of Digital Inputs : 32 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 8 Channel/Group
- Digital Inputs : Yes
- For "0" Signal : Up to 5 V DC
- For "1" Signal : 15 V DC To 28 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 140 g approx
- Conformal Coating : G1, G2 & G3

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:32 Channel Digital Input Module
Product Code: DI32 [S810-32SK04G08GINDCC]

Rev.: 00

General Information

No. of Digital Inputs	:	32 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	4 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

Digital Inputs	:	Yes
Counter	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	0.75 W

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Inputs

Number of digital Inputs	:	32
Digital Input Parameterizable	:	Yes
Source/Sink Input	:	Sink/Source
Input Characteristics Curve as per IEC-61131	:	Yes

Input Voltage

Rated Voltage	:	24 V DC
For 0 Signal	:	Up to 5 V DC
For 1 Signal	:	15 V DC To 28 V DC

Input Current

For "1" Signal	:	2 mA (max 20 mA)

Delay In Input For Rated Voltage

Parameterizable	:	Yes
From 0 To 1	:	Max 0.5 ms
From 1 To 0	:	Max 15 ms

LED

Power Indication	:	Yes
Channel Status	:	Yes
Fuse Blown	:	Yes
Back-Plane Communication	:	Yes

Potential Separation

Separation Between Channel	:	Yes in Groups of 8 Channel
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m
Address Space per Module	:	2 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

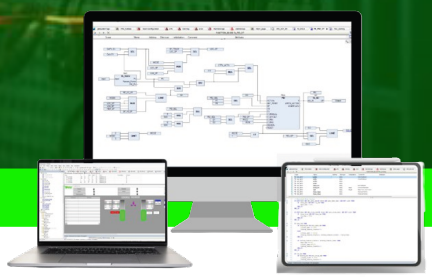
Environmental Protection

Conformal Coating	:	G1, G2 and G3

SAKSHAM

DI16 [S810-16SK02G08GINDCC]

16 Channel Digital Input Module



Digital inputs are key players in a variety of industrial applications, making them super important for today's automation systems. Our digital input modules work hand-in-hand with PLCs to manage all sorts of field components effortlessly. They pick up signals from field sensors, switches, and other devices, ensuring you get accurate and timely data every time. With 16 channels divided into 2 groups of 8 channels each, our digital input modules are designed for optimal performance and reliability in your industrial automation projects.

- No. of Digital Inputs : 16 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 2
- Channels In One Group : 8 Channel/Group
- Digital Inputs : Yes
- For "0" Signal : Up to 5 V DC
- For "1" Signal : 15 V DC To 28 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 140 g approx
- Conformal Coating : G1, G2 & G3

Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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Visit Us: www.tpw-saksham.com

TPW INDUSTRIES LLP

Product Name:16 Channel Digital Input Module
Product Code: DI16 [S810-16SK02G08GINDCC]

Rev.: 00

General Information

No. of Digital Inputs	:	16 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	02 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

Digital Inputs	:	Yes
Counter	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	0.75 W

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Inputs

Number of digital Inputs	:	32
Digital Input Parameterizable	:	Yes
Source/Sink Input	:	Sink/Source
Input Characteristics Curve as per IEC-61131	:	Yes

Input Voltage

Rated Voltage	:	24 V DC
For 0 Signal	:	Up to 5 V DC
For 1 Signal	:	15 V DC To 28 V DC

Input Current

For "1" Signal	:	2 mA (max 20 mA)

Delay In Input For Rated Voltage

Parameterizable	:	Yes
From 0 To 1	:	Max 0.5 ms
From 1 To 0	:	Max 15 ms

LED

Power Indication	:	Yes
Channel Status	:	Yes
Fuse Blown	:	Yes
Back-Plane Communication	:	Yes

Potential Separation

Separation Between Channel	:	Yes in Groups of 8 Channel
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

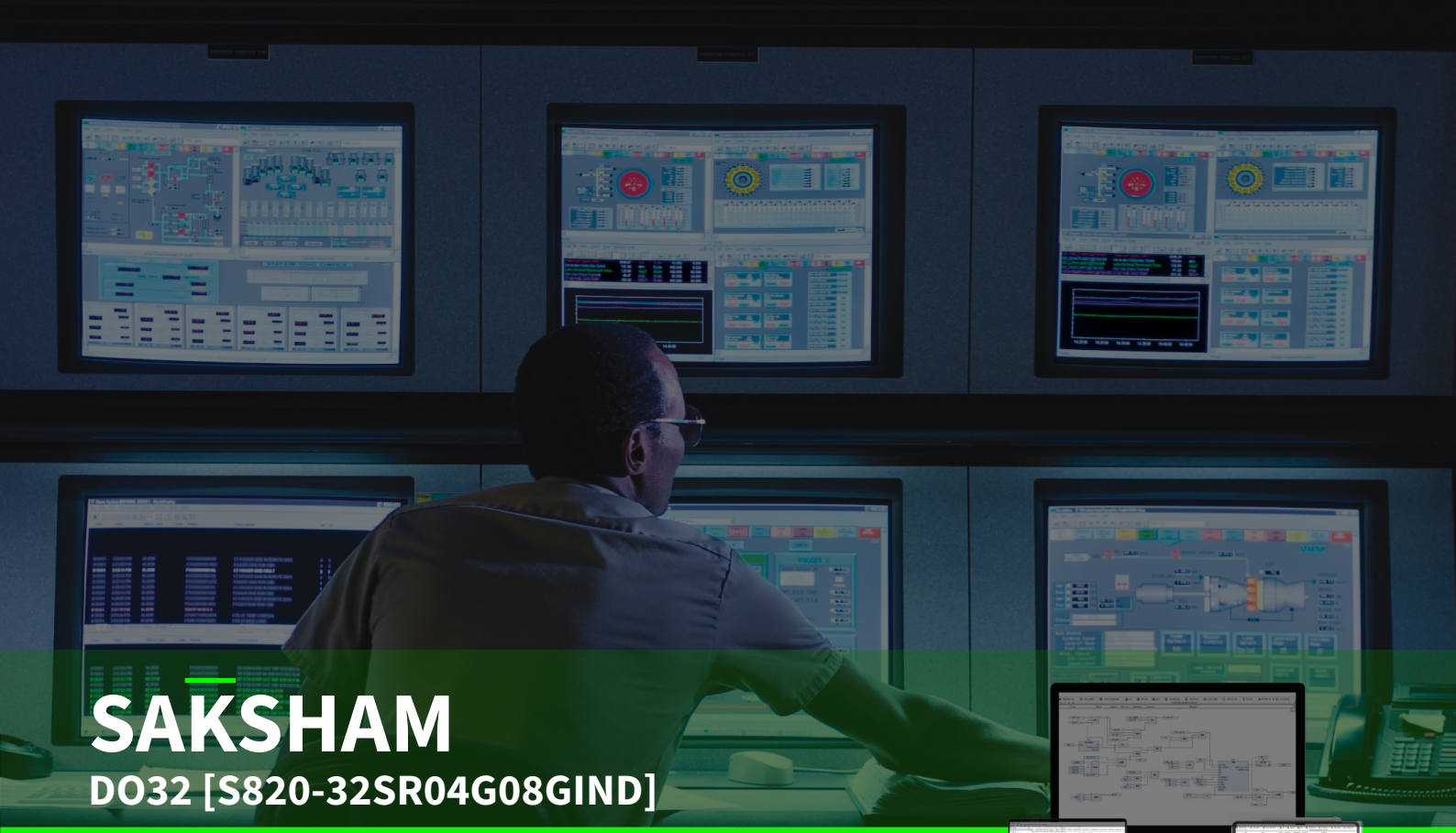
Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m
Address Space per Module	:	2 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

Environmental Protection

Conformal Coating	:	G1, G2 and G3



SAKSHAM

DO32 [S820-32SR04G08GIND]

32 Channel Digital Output Module

The digital output module is a key player in any PLC system, turning digital input commands into important digital output signals. These outputs play a vital role in managing actuators, motors, lights, alarms, and other devices that need external control, all driven by clever logic sequences stored in the PLC's memory. By selecting the right digital output module, you can ensure top-notch performance and accuracy, along with great stability and safety for all your industrial automation projects. Its all about making your work easier and more efficient!

- No. of Digital Outputs : 32 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 8 Channel/Group
- Digital Outputs : Yes
- Current Sinking : No
- Current Sourcing : Yes
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 145 g approx
- Mechanical Coding Element : Yes

Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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Visit Us: www.tpw-saksham.com

TPW INDUSTRIES LLP

Product Name:32 Channel Digital Output Module
Product Code: DO32 [S820-32SR04G08GIND]

Rev.: 00

General Information

No. of Digital Outputs	:	32 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	4 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

DO	:	Yes
DO With Energy Saving Function	:	No
PWM	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA (Field Current not Included)
Power Loss	:	0.75 W

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Output

Number of digital Inputs	:	32
Type of Digital Output	:	Source Output
Current Sinking	:	No
Current Sourcing	:	Yes
Digital Output Parameterizable	:	Yes
Short-Circuit Protection	:	Yes
Response Threshold	:	1 A
Open Circuit Detection	:	Yes
Controlling a Digital Output	:	Yes
Switching Capacity To Resistive Load	:	0.5 A
Switching Capacity To Inductive Load	:	5 W

Output Current

For "1" Signal	:	0.5 A
For "1" Signal	:	0.1 mA

Delay In Output With Resistive Load

From 0 To 1	:	Max 50 µs
From 1 To 0	:	Max 100 µs

Parallel Switching of Two Outputs

Uprating	:	No
Redundant Control of Load	:	Yes (Using Suitable FTA)

Switching Frequency

Resistive Load	:	100 Hz
Inductive Load	:	2 Hz
Lamp Load	:	10 Hz

Total Current

Per Channel	:	0.5 A
Per Module	:	16 A

Module Current As Horizontal Installation

30 Degree Celsius	:	16 A
40 Degree Celsius	:	14 A
50 Degree Celsius	:	12 A
60 Degree Celsius	:	8 A

Module Current As Vertical Installation

30 Degree Celsius	:	16 A
40 Degree Celsius	:	12 A
50 Degree Celsius	:	8 A

Diagnostic

Function of Diagnostics	:	Yes
Diagnostic Alarm	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Diagnostic Info Readable	:	Yes
Supply Voltage Monitoring	:	Yes
Groups Error	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	Yes
Channel Diagnostics	:	No
Module Diagnostics	:	Yes

Potential Separation

Separation Between Channel	:	Yes In Groups of 8 channels
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	60°C
Vertical Installation	:	0°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m
Address Space per Module	:	2 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

SAKSHAM

DO32 [S820-32SR04G08GINDCC]

32 Channel Digital Output Module

The digital output module is a key player in any PLC system, turning digital input commands into important digital output signals. These outputs play a vital role in managing actuators, motors, lights, alarms, and other devices that need external control, all driven by clever logic sequences stored in the PLC's memory. By selecting the right digital output module, you can ensure top-notch performance and accuracy, along with great stability and safety for all your industrial automation projects. Its all about making your work easier and more efficient!

- No. of Digital Outputs : 32 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 8 Channel/Group
- Digital Outputs : Yes
- Current Sinking : No
- Current Sourcing : Yes
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 145 g approx
- Conformal Coating : G1, G2 & G3

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:32 Channel Digital Output Module

Product Code: DO32 [S820-32SR04G08GINDCC]

Rev.: 00

General Information

No. of Digital Outputs	:	32 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	4 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

DO	:	Yes
DO With Energy Saving Function	:	No
PWM	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA (Field Current not Included)
Power Loss	:	0.75 W

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Output

Number of digital Inputs	:	32
Type of Digital Output	:	Source Output
Current Sinking	:	No
Current Sourcing	:	Yes
Digital Output Parameterizable	:	Yes
Short-Circuit Protection	:	Yes
Response Threshold	:	1 A
Open Circuit Detection	:	Yes
Controlling a Digital Output	:	Yes
Switching Capacity To Resistive Load	:	0.5 A
Switching Capacity To Inductive Load	:	5 W

Output Current

For "1" Signal	:	0.5 A
For "1" Signal	:	0.1 mA

Delay In Output With Resistive Load

From 0 To 1	:	Max 50 µs
From 1 To 0	:	Max 100 µs

Parallel Switching of Two Outputs

Uprating	:	No
Redundant Control of Load	:	Yes (Using Suitable FTA)

Total Current

Per Channel	:	0.5 A
Per Module	:	16 A

Switching Frequency

Resistive Load	:	100 Hz
Inductive Load	:	2 Hz
Lamp Load	:	10 Hz

Module Current As Horizontal Installation

30 Degree Celsius	:	16 A
40 Degree Celsius	:	14 A
50 Degree Celsius	:	12 A
60 Degree Celsius	:	8 A

Module Current As Vertical Installation

30 Degree Celsius	:	16 A
40 Degree Celsius	:	12 A
50 Degree Celsius	:	8 A

Diagnostic

Function of Diagnostics	:	Yes
Diagnostic Alarm	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Diagnostic Info Readable	:	Yes
Supply Voltage Monitoring	:	Yes
Groups Error	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	Yes
Channel Diagnostics	:	No
Module Diagnostics	:	Yes

Potential Separation

Separation Between Channel	:	Yes In Groups of 8 channels
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m
Address Space per Module	:	2 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

Environmental Protection

Conformal Coating	:	G1, G2 and G3

SAKSHAM

DO16 [S820-16SR02G08GINDCC]

16 Channel Digital Output Module

The digital output module is a key player in any PLC system, turning digital input commands into important digital output signals. These outputs play a vital role in managing actuators, motors, lights, alarms, and other devices that need external control, all driven by clever logic sequences stored in the PLC's memory. By selecting the right digital output module, you can ensure top-notch performance and accuracy, along with great stability and safety for all your industrial automation projects. Its all about making your work easier and more efficient!

- No. of Digital Outputs : 16 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 02
- Channels In One Group : 8 Channel/Group
- Digital Outputs : Yes
- Current Sinking : No
- Current Sourcing : Yes
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 145 g approx
- Conformal Coating : G1, G2 & G3

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Digital Output Module

Product Code: DO16 [S820-16SR02G08GINDCC]

Rev.: 00

General Information

No. of Digital Outputs	:	16 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	02 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

DO	:	Yes
DO With Energy Saving Function	:	No
PWM	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA (Field Current not Included)
Power Loss	:	0.75 W

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Output

Number of digital Inputs	:	32
Type of Digital Output	:	Source Output
Current Sinking	:	No
Current Sourcing	:	Yes
Digital Output Parameterizable	:	Yes
Short-Circuit Protection	:	Yes
Response Threshold	:	1 A
Open Circuit Detection	:	Yes
Controlling a Digital Output	:	Yes
Switching Capacity To Resistive Load	:	0.5 A
Switching Capacity To Inductive Load	:	5 W

Output Current

For "1" Signal	:	0.5 A
For "1" Signal	:	0.1 mA

Delay In Output With Resistive Load

From 0 To 1	:	Max 50 µs
From 1 To 0	:	Max 100 µs

Parallel Switching of Two Outputs

Uprating	:	No
Redundant Control of Load	:	Yes (Using Suitable FTA)

Total Current

Per Channel	:	0.5 A
Per Module	:	16 A

Switching Frequency

Resistive Load	:	100 Hz
Inductive Load	:	2 Hz
Lamp Load	:	10 Hz

Module Current As Horizontal Installation

30 Degree Celsius	:	16 A
40 Degree Celsius	:	14 A
50 Degree Celsius	:	12 A
60 Degree Celsius	:	8 A

Module Current As Vertical Installation

30 Degree Celsius	:	16 A
40 Degree Celsius	:	12 A
50 Degree Celsius	:	8 A

Diagnostic

Function of Diagnostics	:	Yes
Diagnostic Alarm	:	Available
Module Fuse Blown Indication	:	Yes

Diagnostic Messages

Diagnostic Info Readable	:	Yes
Supply Voltage Monitoring	:	Yes
Groups Error	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	Yes
Channel Diagnostics	:	No
Module Diagnostics	:	Yes

Potential Separation

Separation Between Channel	:	Yes In Groups of 8 channels
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m
Address Space per Module	:	2 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

Environmental Protection

Conformal Coating	:	G1, G2 and G3

SAKSHAM PLC

S700 SERIES

SAKSHAM

AI08 [S730-08C00CV02G04GIND]

08 Channel Analog Input Module

The analog input module is a crucial component designed to facilitate the integration of analog signals into the PLC system. It receives analog signals from a diverse array of external devices, including sensors, transmitters, gauges, variable frequency drives (VFDs), thermocouples, and transducers. Through these inputs, we are able to optimally control and monitor vital processes within the plant environment. This product is an 8-channel analog input module, designed with galvanic isolation across two distinct groups, each comprising four channels.

- No. of Analog Inputs : 8 Channels
- Type of Analog Input : 0-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 2
- Channels In One Group : 4 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories

- TBUS
- Power TB

Accessories

- Analog Input FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:08 Channel Analog Input Module
Product Code: AI08 [S730-08C00CV02G04GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	8 channels
Type of Analog Input	:	0-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	2 Groups
Channel In Groups	:	4 Channel/Groups

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.4 A
Input Current Per Channel Permissible	:	21.5 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Measuring Range	:	Scalable
Input Resistance	:	120 Ω

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Diagnostic

Function of Diagnostic	:	Available

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes
Channel Diagnostics	:	Yes

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Fuse Blown	:	Yes
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	16 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

SAKSHAM

AI08 [S730-06C02CV02G04GIND]

08 Channel Analog Input Module

The analog input module is a crucial component designed to facilitate the integration of analog signals into the PLC system. It receives analog signals from a diverse array of external devices, including sensors, transmitters, gauges, variable frequency drives (VFDs), thermocouples, and transducers. Through these inputs, we are able to optimally control and monitor vital processes within the plant environment. This product is an 8-channel analog input module, designed with galvanic isolation across two distinct groups, each comprising four channels.

- No. of Analog Inputs : 8 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 2
- Channels In One Group : 4 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx
- Type of Analog Input : 06 Channels 4-20 mA + 02 Channels 4-20 mA Or 0-10 V DC Selectable

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories

- TBUS
- Power TB

Accessories

- Analog Input FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:08 Channel Analog Input Module
Product Code: AI08 [S730-06C02CV02G04GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	8 channels
Type of Analog Input	:	06 channels 4-20 mA 02 channels 4-20 mA Or 0-10V DC Selectable
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	2 Groups
Channel In Groups	:	4 Channel/Groups

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.4 A
Input Current Per Channel Permissible	:	21.5 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Input Range		0-10 V DC
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Fuse Blown	:	Yes
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	16 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

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AI08 [S730-07C01CV02G04GIND]

08 Channel Analog Input Module

The analog input module is a crucial component designed to facilitate the integration of analog signals into the PLC system. It receives analog signals from a diverse array of external devices, including sensors, transmitters, gauges, variable frequency drives (VFDs), thermocouples, and transducers. Through these inputs, we are able to optimally control and monitor vital processes within the plant environment. This product is an 8-channel analog input module, designed with galvanic isolation across two distinct groups, each comprising four channels.

- No. of Analog Inputs : 8 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 2
- Channels In One Group : 4 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx
- Type of Analog Input : 07 Channels 0-20 mA + 01 Channels 0-20 mA Or 0-10 V DC Selectable

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories

- TBUS
- Power TB

Accessories

- Analog Input FTA
- Prefab Cable

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General Information

No. of Analog Inputs	:	8 channels
Type of Analog Input	:	07 channels 0-20 mA 01 channels 0-20 mA Or 0-10V DC Selectable
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	2 Groups
Channel In Groups	:	4 Channel/Groups

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.4 A
Input Current Per Channel Permissible	:	21.5 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Input Range	:	0-10 V DC
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

Diagnostic

Function of Diagnostic	:	Available

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Fuse Blown	:	Yes
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	16 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

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AI08 [S730-08C00CV01G08GIND]

08 Channel Analog Input Module

The analog input module is a crucial component designed to facilitate the integration of analog signals into the PLC system. It receives analog signals from a diverse array of external devices, including sensors, transmitters, gauges, variable frequency drives (VFDs), thermocouples, and transducers. Through these inputs, we are able to optimally control and monitor vital processes within the plant environment. This product is an 8-channel analog input module, designed with galvanic isolation from field in one group, of eight channels.

- No. of Analog Inputs : 8 Channels
- Type of Analog Input : 0-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 1
- Channels In One Group : 8 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories

- TBUS
- Power TB

Accessories

- Analog Input FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:08 Channel Analog Input Module
Product Code: AI08 [S730-08C00CV01G08GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	8 channels
Type of Analog Input	:	0-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	1 Groups
Channel In Groups	:	8 Channel/Groups

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.4 A
Input Current Per Channel Permissible	:	21.5 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Input Current

For "1" Signal	:	Yes
For "1" Signal	:	Yes

Diagnostic

Function of Diagnostic	:	Available

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Module Fuse Blown	:	Yes
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	16 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

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AI16 [S73016C00CV04G04GIND]

16 Channel Analog Input Module

The analog input module is a crucial component designed to facilitate the integration of analog signals into the PLC system. It receives analog signals from a diverse array of external devices, including sensors, transmitters, gauges, variable frequency drives (VFDs), thermocouples, and transducers. Through these inputs, we are able to optimally control and monitor vital processes within the plant environment. This product is an 16-channel analog input module, designed with galvanic isolation across four distinct groups, each comprising four channels.

- No. of Analog Inputs : 16 Channels
- Type of Analog Input : 0-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 4
- Channels In One Group : 4 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 160 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories

- TBUS
- Power TB

Accessories

- Analog Input FTA
- Prefab Cable

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Product Name:16 Channel Analog Input Module
Product Code: AI16 [S730-16C00CV04G04GIND]

Rev.: 00

General Information

No. of Analog Inputs	:	16 channels
Type of Analog Input	:	0-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	4 Groups
Channel In Groups	:	4 Channel/Groups

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Input Current	:	0.4 A
Input Current Per Channel Permissible	:	21.5 mA
Transmitter Power	:	Yes
Power Loss	:	Less than 1 W

Range

Input Range	:	0-20 mA
Input Range	:	4-20 mA
Input Range	:	0-10 V DC
Measuring Range	:	Scalable
Input Resistance	:	120 Ω in mA selection

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Conversion Principle

Analog Input Measuring Principle	:	Sigma Delta (Integrating)

Integration and Conversion Time per Channel

Resolution (with over-range)	:	12 Bit
Conversion Time Per Channel	:	100 ms

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)

Interference Voltage Separation

Series Mode Interference	:	Min 70 dB
Common Mode-Voltage	:	Max 10 V
Common Mode Interference	:	90 db

Input Current

For "1" Signal	:	Yes
For "1" Signal	:	Yes

Diagnostic

Function of Diagnostic	:	Available

Diagnostic Messages

Wire-Break	:	Yes (4-20 mA)
Short-Circuit	:	Yes
Channel Diagnostics	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Module Fuse Blown	:	Yes
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	160g Approx

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AO08 [S750-08C00V01G08GIND]

08 Channel Analog Output Module

Analog Output modules are vital in PLC systems, enabling precise control and regulation of devices and machinery. Selecting the right module depends on application needs, signal integrity, and integration complexity. When properly implemented, they enhance system efficiency, reliability, and productivity. This 08-channel analog output module offers superior performance with complete galvanic isolation across all channels, ensuring outstanding noise immunity and stable operation even in demanding industrial environments, making it ideal for precision control applications.

- No. of Analog Outputs : 8 Channels
- Type of Analog Output : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 1
- Channels In One Group : 08 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 370 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 100 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Output FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:08 Channel Analog Output Module
Product Code: AO08 [S750-08C00V01G08GIND]

Rev.: 00

General Information

No. of Analog Outputs	:	8 channels
Type of Analog Outputs	:	4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	1 Groups
Channel In One Groups	:	8 Channel/Groups

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	320 mA
Current Per Channel Permissible	:	21.5 mA
Power Loss	:	Less than 1 W
Load Resistance	:	370 Ω, Max

Range

Output Range	:	0-20 mA
Output Range	:	4-20 mA
Range	:	Scalable

Connection of Actuator

Two Wire Connection, Current O/P	:	Yes

Oscillation Time

Resistive Load	:	0.5 ms
Capacitive Load	:	1 ms
Inductive Load	:	1 ms

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)
Substitute Value Can Applied	:	Yes
Crosstalk Between Outputs	:	-50 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Channel Diagnostics (Wire-Break)	:	No
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	370 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	32 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	100g Approx

SAKSHAM

AO08 [S750-08C00V08G01GIND]

08 Channel Analog Output Module

Analog output modules are vital in PLC systems, enabling precise control and regulation of devices and machinery. Selecting the right module depends on application needs, signal integrity, and integration complexity. When properly implemented, they enhance system efficiency, reliability, and productivity. This 08-channel analog output module offers superior performance with complete galvanic isolation across all channels, ensuring outstanding noise immunity and stable operation even in demanding industrial environments, making it ideal for precision control applications.

- No. of Analog Outputs : 8 Channels
- Type of Analog Output : 0/4-20 mA
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 8
- Channels In One Group : 1 Channel/Group
- Function Of Diagnostics : Available
- Insulation Tested With : 500 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 100 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Analog Output FTA
- Prefab Cable

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General Information

No. of Analog Outputs	:	8 channels
Type of Analog Outputs	:	4-20 mA
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	8 Groups
Channel In One Groups	:	1 Channel/Groups

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	320 mA
Current Per Channel Permissible	:	21.5 mA
Power Loss	:	Less than 1 W
Load Resistance	:	370 Ω, Max

Range

Output Range	:	0-20 mA
Output Range	:	4-20 mA
Range	:	Scalable

Connection of Actuator

Two Wire Connection, Current O/P	:	Yes

Oscillation Time

Resistive Load	:	0.5 ms
Capacitive Load	:	1 ms
Inductive Load	:	1 ms

Configuration In Running

Parameterization in Run	:	Yes
Calibration in Run	:	Yes

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Error

Linearity Error	:	0.1% (Input Range)
Operational Error	:	0.5% (Input Range)
Basic Error	:	0.3% (Input Range)
Substitute Value Can Applied	:	Yes
Crosstalk Between Outputs	:	50 db

Alarm

Diagnostic Alarm	:	Yes
Limit Alarm	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	No
Module Fuse Blown	:	Yes
Module Diagnostics (Back-Plane Comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes (Groups Isolation)
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m, 1.0 mm² shielded cable
Address Space per Module	:	13 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	100g Approx

SAKSHAM

DI16 [S710-16SK02G08GIND]

16 Channel Digital Input Module

Digital Inputs are integral to a diverse range of industrial applications establishing them as crucial components of advanced automation systems digital input modules are deployed in PLC to effectively manage various field components. These digital inputs are acquired from field sensors switches and other devices ensuring accurate and timely data acquisition. Our digital input modules feature 16 channels galvanically isolated into 2 distinct groups of 8 channels each providing optimal performance and reliability for industrial automation applications.

- No. of Digital Inputs : 16 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 2
- Channels In One Group : 8 Channel/Group
- Digital Inputs : Yes
- For “0” Signal : Up to 5 V DC
- For “1” Signal : 15 V DC To 28 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 140 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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TPW INDUSTRIES LLP

Product Name:16 Channel Digital Input Module
Product Code: DI16 [S710-16SK02G08GIND]

Rev.: 00

General Information

No. of Digital Inputs	:	16 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	2 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

Digital Inputs	:	Yes
Counter	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	less than 1 w

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Inputs

Number of digital Inputs	:	32
Digital Input Parameterizable	:	Yes
Source/Sink Input	:	Sink/Source
Input Characteristics Curve as per IEC-61131	:	Yes

Input Voltage

Rated Voltage	:	24 V DC
For 0 Signal	:	Up to 5 V DC
For 1 Signal	:	15 V DC To 28 V DC

Input Current

For "1" Signal	:	2 mA (max 20 mA)

Delay In Input For Rated Voltage

Parameterizable	:	Yes
From 0 To 1	:	Max 0.5 ms
From 1 To 0	:	Max 15 ms

LED

Power Indication	:	Yes
Channel Status	:	Yes
Fuse Blown	:	Yes
Back-Plane Communication	:	Yes

Potential Separation

Separation From Field	:	Yes
Separation From Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	1000 m
Address Space per Module	:	4 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

SAKSHAM

DO16 [S720-16SR02G08GIND]

16 Channel Digital Output Module

The Digital Output module is an essential component of any PLC system, transforming Digital Input signals into crucial Digital Output signals. These outputs are integral for controlling actuators, motors, lights, alarms, and other devices that require external control. All guided by sophisticated logic sequences built in the PLC's. By choosing the right Digital Output module, you ensure not only maximum performance and accuracy but also unmatched stability and safety throughout your industrial automation projects. Our digital output modules, featuring 16 channels galvanically isolated into 2 distinct groups of 8 channels each, provide unparalleled reliability and efficiency, making them the ideal choice for your automation needs.

- No. of Digital Outputs : 16 Channels
- Released Date : From July 22
- Mounting : Base Unit TBUS-PPPPPPPP
- Galvanic Isolation : Yes
- Galvanic Isolation Group : 2
- Channels In One Group : 8 Channel/Group
- Digital Outputs : Yes
- For "0" Signal : Up to 5 V DC
- For "1" Signal : 15 V DC To 28 V DC
- Field Connection : 37-Pin D-Sub Female Connector
- Power Connection : 5 Pin Phoenix Plug-In Screw Connector (De-Coded)
- Cable Length Max : 500 m, 1.0 mm^2 shielded cable
- Dimension (W x H x D) : 25 x 122 x 115 mm
- Weight : 145 g approx

CODESYS Hot Swappable

Fast and Easy Integration

IEC 61131-3

Mandatory Accessories
- TBUS
- Power TB

Accessories
- Passive FTA
- Prefab Cable

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Product Name:16 Channel Digital Output Module
Product Code: DO16 [S720-16SR02G08GIND]
Rev.: 00

General Information

No. of Digital Outputs	:	16 Channels
Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Isolation & Protection

Galvanic Isolation	:	Yes
Galvanic Isolation Groups	:	2 Groups
Channel In One Groups	:	8 Channel/Groups

Mode of Operation

DO	:	Yes
DO With Energy Saving Function	:	No
PWM	:	No

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	18.5 V DC
High Supply Voltage	:	28.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	less than 1W (Typical 0.75W)

Hardware Configuration

Automatic Encoding	:	No
Mechanical Coding Element	:	Yes

Digital Output

Number of digital Inputs	:	16
Type of Digital Output	:	Source Output
Current Sinking	:	No
Current Sourcing	:	Yes
Digital Output Parameterizable	:	Yes
Short-Circuit Protection	:	Yes
Response Threshold	:	1 A
Open Circuit Detection	:	Yes
Controlling a Digital Output	:	Yes
Switching Capacity To Resistive Load	:	0.5 A

Output Current

For "1" Signal	:	0.5 A
For "1" Signal	:	0.1 mA

Delay In Output With Resistive Load

From 0 To 1	:	Max 50 µs
From 1 To 0	:	Max 100 µs

Parallel Switching of Two Outputs

Uprating	:	No
Redundant Control of Load	:	Yes (Using Suitable FTA)

Total Current

Per Channel	:	0.5 A
Per Module	:	8 A

Module Current As Horizontal Installation

30 Degree Celsius	:	8 A
40 Degree Celsius	:	7 A
50 Degree Celsius	:	6 A
60 Degree Celsius	:	4 A

Module Current As Vertical Installation

30 Degree Celsius	:	8 A
40 Degree Celsius	:	6 A
50 Degree Celsius	:	4 A

Diagnostic

Function of Diagnostics	:	Yes
Diagnostic Alarm	:	Available

Diagnostic Messages

Diagnostic Info Readable	:	Yes
Supply Voltage Monitoring	:	Yes
Groups Error	:	Yes

LED

Power Indication	:	Yes
Channel Status	:	Yes
Module Fuse Blown	:	Yes
Module Diagnostics (Back-Plane comm)	:	Yes

Potential Separation

Separation Between Channel	:	Yes
Separation Between Backplane	:	Yes
Separation Between Channel and System Power Supply	:	Yes
Insulation Tested With	:	500 V DC

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	60°C
Vertical Installation	:	0°C

Connection

Field Connection	:	37-Pin D-Sub Female Connector
Power Connection	:	5 Pin Phoenix Plug-In Screw Connector (De-Coded)

Other Information

Cable Length Max.	:	500 m
Address Space per Module	:	2 Bytes
Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	140g Approx

SAKSHAM

IM [S650-2001EM08XM01] / [*S650-2001EM08XM01CC]

Interface Module for SAKSHAM Rev.: 00

Our interface module IM represents the pinnacle of modern technology this IM efficiently collects data from all input modules and send it to the CPU of PLC, where it is expertly Processed and returned to the IM. The IM then delivers this crucial Information to the output modules ensuring seamless communication with the field. Our IM connected to IO modules via a TBUS so, You can easily replace any module while in operation providing Unmatched flexibility in your system.

General Information

Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	0.75 W (Typical)

Hardware Configuration

No of Module Per IM	:	8 (Any Type of IO Module)

Interface Hardware

No of interface Port	:	1
RJ 45 Ethernet	:	Yes, 1 Integrated RJ 45 Port with magnetics
Interface Communication Protocol	:	Proprietary
Speed	:	100 Mbps Full Duplex
Auto Crossing	:	Yes
Auto Negotiation	:	Yes

Diagnostic Indicator Led

Power On Indication	:	Yes
Tx/Rx Link	:	Yes

Isolation And Protection

Type of Isolation	:	Galvanic
Power Supply Isolation	:	Yes
Logic Isolation	:	Yes From Back-Plane

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Other Information

Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	146g Approx

*Environmental Protection

Conformal Coating	:	G1, G2 and G3

Mandatory Accessories

- TBUS
- Power TB

Hot Swappable

Fast and Easy Integration

IEC 61131-3

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TPW INDUSTRIES LLP

SAKSHAM

IM [S651-2001EM08IM01]

Interface Module for Siemens

Rev.: 00

Our interface module IM represents the pinnacle of modern technology this IM efficiently collects data from all input modules and send it to the CPU of PLC, where it is expertly processed and return to the IM. Our IM connected to IO modules via a TBUS. You can easily replace any module while in operation providing unmatched flexibility in your system This series of IM is developed to for the purpose of interfacing our SAKSHAM Modules with Third Party Systems.

General Information

Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	Codesys V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	0.75 W (Typical)

Hardware Configuration

No of Module Per IM	:	8 (DI / AI type of Input Module)

Interface Hardware

No of interface Port	:	1
RJ 45 Ethernet	:	Yes, 1 Integrated RJ 45 Port with magnetics
Interface Communication Protocol	:	MODBUS-TCP/IP
Speed	:	100 Mbps Full Duplex
Auto Crossing	:	Yes
Auto Negotiation	:	Yes

Diagnostic Indicator Led

Power On Indication	:	Yes
Tx/Rx Link	:	Yes

Isolation And Protection

Type of Isolation	:	Galvanic
Power Supply Isolation	:	Yes
Logic Isolation	:	Yes From Back-Plane

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Other Information

Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	146g Approx

Mandatory Accessories

- TBUS
- Power TB

Hot Swappable

Fast and Easy Integration

IEC 61131-3

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TPW INDUSTRIES LLP

SAKSHAM

IM [S651-2001EM08OM01]

Interface Module for Siemens

Rev.: 00

Our interface module IM represents the pinnacle of modern technology. The PLC executes its logic and send the information of output signals to the IM. The IM then delivers this crucial information to the Output modules ensuring seamless communication with the field. Our IM connected to IO modules via a TBUS. You can easily replace any module while in operation providing unmatched flexibility in your system. This series of IM is developed to get our SAKSHAM Modules be used with third-party Systems.

General Information

Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	0.75 W (Typical)

Hardware Configuration

No of Module Per IM	:	8 (DO /AO type of Output Module)

Interface Hardware

No of interface Port	:	1
RJ 45 Ethernet	:	Yes, 1 Integrated RJ 45 Port with magnetics
Interface Communication Protocol	:	MODBUS-TCP/IP
Speed	:	100 Mbps Full Duplex
Auto Crossing	:	Yes
Auto Negotiation	:	Yes

Diagnostic Indicator Led

Power On Indication	:	Yes
Tx/Rx Link	:	Yes

Isolation And Protection

Type of Isolation	:	Galvanic
Power Supply Isolation	:	Yes
Logic Isolation	:	Yes From Back-Plane

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Other Information

Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	146g Approx

Mandatory Accessories

- TBUS
- Power TB

Hot Swappable

Fast and Easy Integration

IEC 61131-3

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TPW INDUSTRIES LLP

SAKSHAM

IM [S658-2001EM08XM01]

Interface Module for DAQ

Rev.: 00

Our interface module IM represents the pinnacle of modern technology this IM efficiently collects data from all input modules and send it to the CPU of PLC where it is expertly processed and returned to the IM. The IM then delivers this crucial information to the output modules ensuring seamless communication with the field. Our IM connected to IO modules via a TBUS. You can easily replace any module while in operation providing unmatched flexibility in your system. This DAQ series of Interface Module and with this SAKSHAM IO MODULES can be used with any Data Aquisiton System, SCADA, Dash boarding System via standard MODBUS-TCP/IP Protocol.

General Information

Released Date	:	From July 22
Firmware Version	:	1.00.001
Firmware Update Possible	:	Yes
Engineering Software	:	CODESYS V3.5 SP19 & above
Mounting	:	Base Unit TBUS-PPPPPPPP

Power Supply

Power Supply From	:	Top Side De-Coded Plug-In Screw Terminal
Normal Supply Voltage	:	24 V DC
Low Supply Voltage	:	21.6 V DC
High Supply Voltage	:	26.5
Reverse Polarity Protection	:	Yes
Maximum Current	:	100 mA
Power Loss	:	0.75 W (Typical)

Hardware Configuration

No of Module Per IM	:	8 (Any type of IO Module)

Interface Hardware

No of interface Port	:	1
RJ 45 Ethernet	:	Yes, 1 Integrated RJ 45 Port with magnetics
Interface Communication Protocol	:	MODBUS-TCP/IP
Speed	:	100 Mbps Full Duplex
Auto Crossing	:	Yes
Auto Negotiation	:	Yes

Diagnostic Indicator Led

Power On Indication	:	Yes
Tx/Rx Link	:	Yes

Isolation And Protection

Type of Isolation	:	Galvanic
Power Supply Isolation	:	Yes
Logic Isolation	:	Yes From Back-Plane

Ambient Condition

Horizontal Installation	:	0°C
Horizontal Installation	:	60°C
Vertical Installation	:	0°C
Vertical Installation	:	60°C

Other Information

Dimensions (W x H x D)	:	25 x 122 x 115 mm
Weight	:	146g Approx

Mandatory Accessories

- TBUS
- Power TB

Hot Swappable

Fast and Easy Integration

IEC 61131-3

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SAKSHAM CPU

SAKSHAM CPU

In industrial automation, the programmable logic controller (PLC) relies on its central processing unit (CPU), the system's brain, to ensure precise and reliable control. The CPU executes user-defined logic, interprets instructions, reads inputs, processes data, and generates outputs for actuators and other devices. It manages memory for programs, data, and settings, preventing corruption while supporting efficient operation. Modern CPUs enable seamless communication with networks, devices, and HMIs, handle protocols, and perform self-diagnostics. Their processing power, memory, and advanced features are essential for performance, reliability, and productivity.

- Product : SAKSHAM CPU
- Released Date : From July 22
- Mounting : DIN-RAIL
- Control Element Keys : No
- Mode Button : No
- Normal Voltage : 24 V DC
- Low Voltage : 18.5 V DC
- High Voltage : 28.5 V DC
- Rated Input Current : 1 A
- Firmware Update Possible : Yes
- Language Support : IEC 61131-3 Languages: Ladder (LD), Structured Text (ST), Function Block Diagram (FBD), SFC, Instruction List (IL) — via the embedded Soft-PLC runtime.

Accessories

- SCADA BASIC
- SCADA PROFESSIONAL
- CODESYS USB Key

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TPW INDUSTRIES LLP

Product Name: SAKSHAM CPU
Product Code: [S9XX-XXX0-4E70-XXX]

Rev.: 00

General Information

Product	:	SAKSHAM CPU
Released Date	:	From July 22
Firmware Update Possible	:	Yes
Engineering Software	:	Codesys
Display	:	No
Control Element Keys	:	No
Mode Button	:	No
Mounting	:	DIN-RAIL

Runtime Compatibility

Language Support	:	IEC 61131-3 Languages: Ladder (LD), Structured Text (ST), Function Block Diagram (FBD), SFC, Instruction List (IL) — via the embedded soft-PLC runtime.
Other Features	:	Web-based HMI & online debug, variable trace, and task monitor included.

Power Supply

Normal Voltage	:	24 V DC
Low Voltage	:	18.5 V DC
High Voltage	:	28.5 V DC
Rated Input Current	:	1 A
Maximum Input Current	:	1.5 A
Inrush Current Max	:	2.0 A
Power	:	10 W
Power Loss	:	4.8 W

Memory

Integrated Work Memory For Program	:	256 MB - 2048 MB
Integrated Work Memory For Data	:	8 GB - 32 GB

Hardware Configuration

Rack & Module		
No. of Module Per Rack	:	8 (Any IO Mix)
No. of Rack	:	8 Racks
No. of Module	:	64 Maximum
Interface Type-1		
Ethernet(RJ-45)	:	Yes
No. of ports	:	Up to 2-separate MAC & IP
Speed	:	100 MBPS
Autonegotiation	:	Yes
Autocrossing	:	Yes
Industrial Ethernet Status	:	Yes
Link/Status LED	:	Yes
Interface Type 2		
Serial	:	Up to 4 (RS 232 / RS 485)
Connection	:	Screw Connection
Protocols		
Ethernet/IP	:	Available
EtherCAT	:	Available
Modbus TCP/IP	:	Available
Profinet IO Controller	:	Available
OPC-Ua	:	Available
Media Redundancy	:	Available

Runtime Limits

No. of Tasks	:	Up to 100
No. of free-wheeling task	:	Up to 100
No. of Event Task	:	Up to 100
No. of Status Task	:	Up to 100
Min. Cycle Time	:	1 ms
Max. Watchdog time	:	400000000 µs
Max. Watchdog Sensitivity	:	10 µs

Time and Date

Clock Type	:	On Board RTC
Operating Hours Counter	:	Available
Synchronization Support	:	Yes

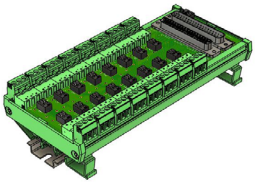
Supported Technology Objects

PID Control	:	Yes
Feed Forward PID Control	:	Yes
Temperature PID Control	:	Yes
Timer	:	Yes
Counter	:	Yes
Motor & Valve Blocks & Many More	:	Yes

AI-FTA

Analog Input-Field Terminal Assembly

Rev.: 00



Welcome to the future of panel wiring with our innovative field terminal Assembly (FTA), We've designed our FTA to make your life easier by allowing you to connect prefabricated cables directly to the analog input module with ease. Say goodbye to complicated setups and hello to seamless field connections in your plant! You'll love the convenience of connecting both 2-wire and 4-wire Transmitters at one terminal with just a simple switch. Plus, our FTA makes troubleshooting a breeze, you can check field connections without any hassle—just grab a Multimeter and press a button. Choose our FTA for a smoother, more enjoyable operation.

General Information

Product Type	:	FTA (Field Terminal Assembly)
No Of Channels	:	16
Released Date	:	From July 22

Electrical Properties

Operating Voltage	:	≤ 30 V DC
Current Per Branch	:	1 A
Current Terminal Block	:	5 A

Connection Data (Module Level)

Connection Method	:	37-Pin D-Sub Female Connector
Number Of Connection	:	1

Connection Data (Field Level)

Connection Method	:	Through Plug-In Screw Terminal
Number Of Connection	:	For 16 Channels
Conductor Cross Section Rigid	:	0.2 mm² ... 2.5 mm²
Conductor Cross Section Flexible	:	0.2 mm² ... 1.5 mm²
Tightening Torque	:	0.5 Nm ... 0.6 Nm

Ambient Condition

Degree Of Protection	:	IP00
Degree Of Protection (Installation Location)	:	≥ IP54
Ambient Temperature	:	-20 °C ... 70 °C
Altitude	:	≤ 2000 m

Connection Data (Supply Level)

Connection Method	:	Through Plug-In Screw Terminal
Number Of Connection	:	3
Conductor Cross Section Rigid	:	0.2 mm² ... 2.5 mm²
Conductor Cross Section Flexible	:	0.2 mm² ... 1.5 mm²
Tightening Torque	:	0.5 Nm ... 0.6 Nm

Dimension

Width	:	260 mm
Height	:	89.6 mm
Depth	:	70.5 mm

Material Specification

Enclosure Color	:	Green
Enclosure Insulation Materials	:	PVC

Mounting

Mounting Type	:	DIN-RAIL Mounting
Mounting Position	:	Any

Accessories

- Prefab Cable

Fast and Easy Integration

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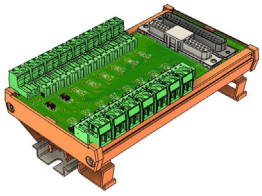
AO-FTA

Analog Output-Field Terminal Assembly

Rev.: 00



Welcome to the future of panel wiring with our innovative field terminal assembly (FTA). We've designed our FTA to make your life easier by allowing you to connect prefabricated cables directly to the analog output module. This means you can enjoy seamless and efficient field connections in your plant. One of the best features of our FTA is its troubleshooting capability—no need to disconnect anything! Just grab a multimeter and a push button to check your field connections with ease. Choose our FTA for a smoother and hassle-free operation!

General Information

Product Type	:	FTA (Field Terminal Assembly)
No Of Channels	:	16
Released Date	:	From July 22

Electrical Properties

Operating Voltage	:	≤ 30 V DC
Current Per Branch	:	1 A
Current Terminal Block	:	5 A

Connection Data (Module Level)

Connection Method	:	37-Pin D-Sub Female Connector
Number Of Connection	:	1

Connection Data (Field Level)

Connection Method	:	Double Through Plug-In Screw Terminal
Number Of Connection	:	For 16 Channels
Conductor Cross Section Rigid	:	0.2 mm² ... 2.5 mm²
Conductor Cross Section Flexible	:	0.2 mm² ... 1.5 mm²
Tightening Torque	:	0.5 Nm ... 0.6 Nm

Ambient Condition

Degree Of Protection	:	IP00
Degree Of Protection (Installation Location)	:	≥ IP54
Ambient Temperature	:	-20 °C ... 70 °C
Altitude	:	≤ 2000 m

Connection Data (Supply Level)

Connection Method	:	Through Plug-In Screw Terminal
Number Of Connection	:	3
Conductor Cross Section Rigid	:	0.2 mm² ... 2.5 mm²
Conductor Cross Section Flexible	:	0.2 mm² ... 1.5 mm²
Tightening Torque	:	0.5 Nm ... 0.6 Nm

Dimension

Width	:	260 mm
Height	:	89.6 mm
Depth	:	70.5 mm

Material Specification

Enclosure Color	:	Orange
Enclosure Insulation Materials	:	PVC

Mounting

Mounting Type	:	DIN-RAIL Mounting
Mounting Position	:	Any

Accessories

- Prefab Cable

Fast and Easy Integration

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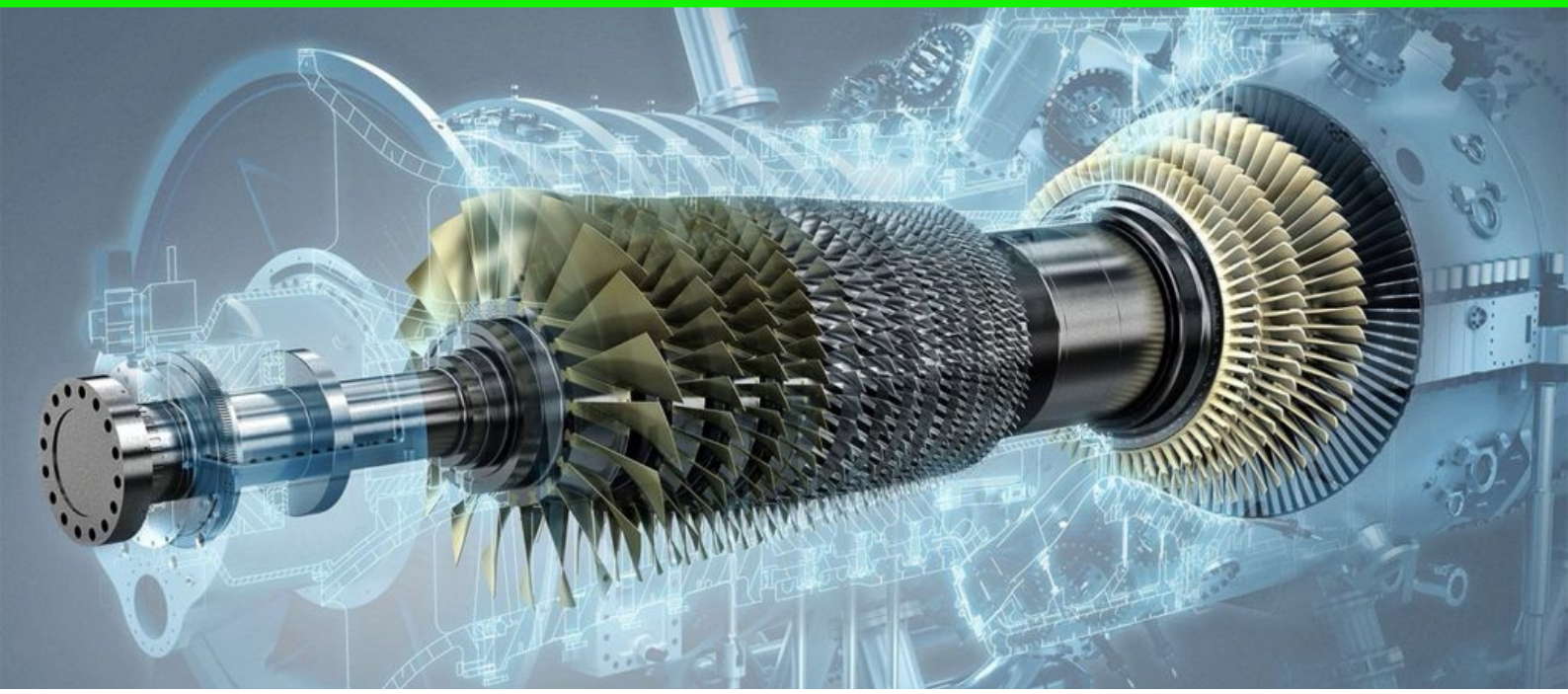
TPW INDUSTRIES LLP

Industrial Solution

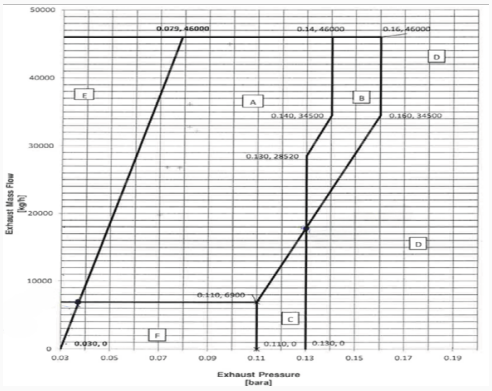
TURVEX - TURBINE EXHAUST ZONE MONITOR



The Turbine Exhaust Zone Monitor (TurVEx) continuously tracks exhaust pressure and flow in real time to ensure turbines operate within safe zones. It raises an alert or can optionally shut down the system if unsafe conditions persist for too long.

FEATURES

- Real-time pressure & flow monitoring
- OEM-defined or custom-defined zone support (A/B/C/D etc.)
- Timer-based zone residency tracking
- Alarm/Trip (optional) trigger on unsafe zone residency
- Optional: SCADA integration for XY plot
- Optional: HMI for Operating Zone & Time Display
- Optional: Logging, Reporting, Web access



IF THIS MONITORING IS NOT DONE, WHAT HARM COULD OCCUR?

If this monitoring is not performed and the turbine continues to run in unsafe zones for a prolonged period, the following issues may occur.

- Blade tip erosion
- Back pressure issues
- Reduced turbine efficiency
- Long-term mechanical fatigue
- OEM warranty may be void (if zones are ignored)

MESSAGE: "Your turbine is experiencing invisible stress, which will definitely lead to downtime in a few months or years, and without monitoring, you won't even know if the downtime was caused by unsafe operation or not."

WHY ARE MOST PEOPLE NOT MONITORING THIS?

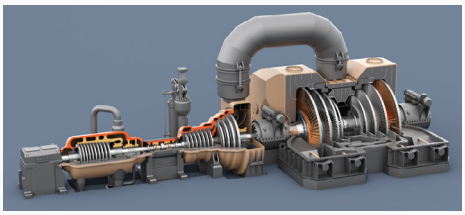
REASON	EXPLANATION
Given by manufacturer but often ignored	Paper-based zone limits are provided, but not implemented in real-time logic
"Trip to avoid" mentality	Plants fear unplanned shutdowns, so they avoid setting alarms or trips
Budget constraints	Instrumentation for turbine retrofits is often treated as a low priority
Lack of awareness	Many operators don't realize that zone monitoring is even possible
Technical barriers	People assume that building such logic is too complex or costly

BENEFITS

- Prevents prolonged unsafe operation
- Avoids costly downtime and damage
- Improves operator awareness through live visualization
- Logs zone activity for audits and maintenance planning
- OEM zone enforcement with zero habit change

WHY CHOOSE US?

- Proven industrial-grade implementation
- No new sensors required (uses existing pressure and flow
- transmitters)
- SCADA - ready and customizable
- Minimal footprint – Maximum protection



WHAT TURVEX SOLVES

- Most turbines lack real-time zone monitoring.
- Our module detects unsafe zones using pressure-flow data.
- Triggers warning or trip if limits are crossed.
- Ensures OEM compliance and protects turbine life.

"Smarter zone monitoring, Safer turbine operation"

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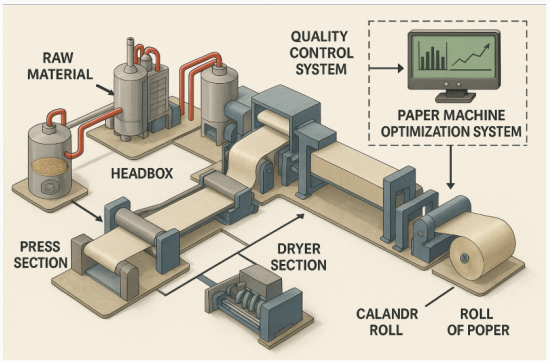
PMOPT- PAPER MACHINE OPTIMIZATION SYSTEM

For the past nine years, TPW Industries LLP has focused on optimizing paper manufacturing by addressing hidden barriers that affect efficiency and profitability. In response to market pressures, the paper industry is restructuring its operations. To support this transition, TPW developed PMOpt–a system that enhances paper machine stability and product quality by optimizing control parameters through integration with QCS

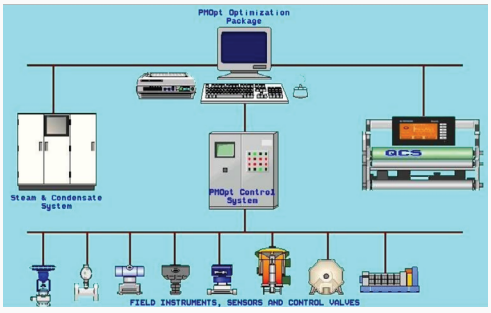
CONCEPT



- PMOpt monitors final product quality, feed Parameters, and re-source capacity.
- Requires field instruments for effective process monitoring and control.
- Must be integrated with a modern control system.
- Supports integration with third-party packages.
- Existing discrete controls should be merged into PMOpt and then removed.

SYSTEM ARCHITECTURE

The PMOpt package functions at the supervisory level, using real-time data and proprietary MPC algorithms to optimize paper production. It models various paper machine sections and integrates seamlessly with existing or third-party control systems. No machine modifications are required, as it enhances existing setups. The system can increase speed by up to 2 MPM per grade, ensuring rapid ROI. Through periodic analysis and optimization band reviews, it improves quality and output without the need for capacity upgrades or structural changes.



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PRE-REQUISITE

The PMOpt package requires monitoring and control of various vital parameters of the paper machine that are related to product quality. Key parameters and controls include:

- SR Box consistency monitoring & control for each street of the approach flow system
- Head Box level monitoring & control along with air blower capacity monitoring
- Head Box pressure and jet-wire ratio monitoring & control along with fan pump capacity monitoring for production optimization
- Online basis weight, moisture, and other parameter monitoring & control
- OPC connectivity to transfer instantaneous and scan average of basis weight, moisture, and other parameters, as well as 2-sigma values from the QCS to third-party systems
- Pressure screens and centric-cleaners pressure and differential pressure monitoring
- Steam and condensate monitoring and control with capacity monitoring to optimize production
- Vacuum monitoring at various sections of the paper machine
- Machine chest consistency monitoring & control

Other parameters, wherever possible, can be connected to the PMOpt package for machine speed optimization. Parameters marked in red are mandatory, while others are optional but provide optimal control if implemented.

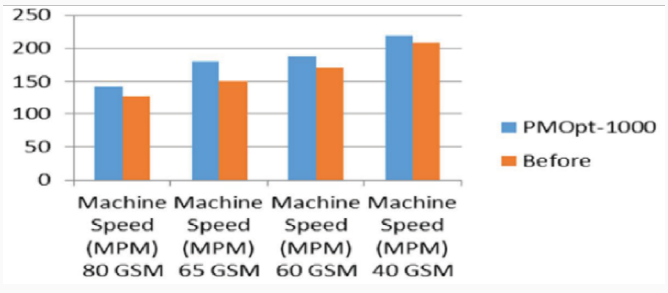
CASE STUDY

We implemented this solution in a paper industry, successfully optimizing processes, improving operational efficiency, enhancing reliability, and delivering measurable business value, resulting in consistent performance improvements and sustainable growth.

HOW PMOPT ENHANCED PRODUCTION

The implementation of the PMOpt based recipe management the following points has been achieved:

- Increased production
- Reduce grade change recovery time
- Faster startup time
- Reduced Paper Breaks.
- Increased speed through better speed control



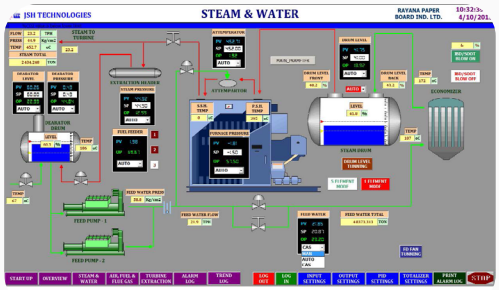
BENEFITS

The implementation of the PMOpt based recipe management the quick grade change has been achieved. There is an increase in production from 832 MT to 871MT. The grade wise break-up is graphically shown in Fig-2. below. Total monetary gain is around Rs. 69 Lakhs. Also due to auto process control, operator's intervention

BCEOPT - BOILER CONTROL & EFFICIENCY OPTIMIZATION SYSTEM

BCEOPT- (Boiler Combustion Efficiency Optimization & Performance Tracking) is an intelligent control and monitoring solution aimed at maximizing boiler efficiency, reducing Fuel usage, and lowering emissions. It integrates advanced algorithms, real-time data analysis, and automated control to ensure stable operation, optimize performance, and support cost-effective, reliable, and environmentally sustainable power plant operations.

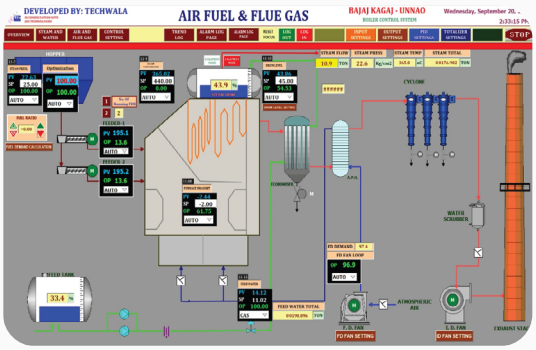
CONCEPT



- Optimizes boiler fuel-to-air ratio for consistent combustion efficiency
- Continuously monitors key parameters to maintain stable boiler operation
- Minimizes emissions by controlling excess air in the combustion process
- Enhances equipment life by reducing thermal and mechanical stress
- Provides actionable reports supporting predictive maintenance and cost efficiency

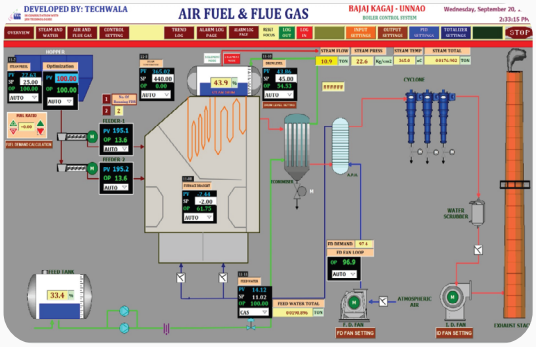
COMBUSTION CONTROL

- Uses Model-Based Predictive Control (MPC) instead of traditional pressure or load based fuel control.
- Eliminates need for Load-vs-Fuel graphs and manual Fuel-to-Air ratio adjustments.
- Continuously evaluates Boiler parameters against a predictive model for optimal control.
- MPC (Model based Predictive Control) Algorithm for Combustion
- Regulates Air feeding based on Load, Fuel needs, and O_2 measurement.
- Achieves 1.0-1.5% fuel savings with full combustion control implementation.

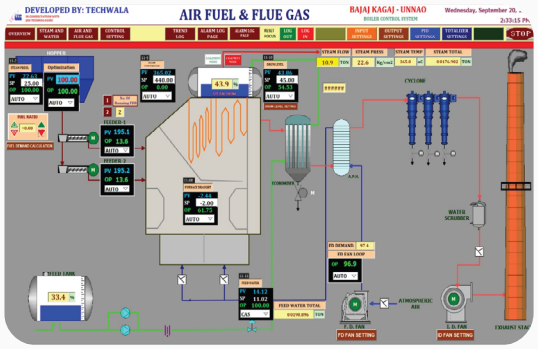


DRUM LEVEL CONTROL – VFD FEED PUMP

- Outlet Pressure Control – Maintains pump outlet pressure via VFDs; efficient at full load but less so at part load, increases maintenance.
- 3-Element Control without Valve – Direct pump flow control; saves energy but raises pump wear risk.
- Saving Potential – 25 TPH pump at reduced pressure can save ~40,000/month.
- Structural Resonance Risk – VFDs speed variations may cause vibrations, damaging pumps and piping.
- Rotor Dynamics Issue – Speeds near critical points can cause excessive vibration and mechanical stress.



5-ELEMENT VPC CONTROL



Combines valve-based control with VFDs control. The drum level is maintained via the 5-element loop while the VFDs optimizes pump speed. Benefits:

- Stable drum level in varying load conditions
- Reduced maintenance requirements
- Additional energy savings

BENEFITS

- Enhanced boiler efficiency via multi-parameter monitoring
- Stabilizes pressure and flow with advanced controls, reducing wear, lowering maintenance costs, and extending boiler life
- Ensures stable steam pressure and temperature with advanced controls, delivering consistent quality, fewer interruptions, and improved process reliability
- Optimizes fuel-air controls to cut emissions, ensure compliance, and support sustainable, Eco-friendly operations
- Significant fuel cost savings through advanced combustion control

"Smarter Control, Better Performance."

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SAKSHAM CORE

Industrial Edge Engineering Platform

Control Operations Ecosystem Responsive

SAKSHAM CORE is an advanced engineering environment optimized for configuring, programming, and maintaining next-generation industrial controllers. As a next-generation industrial monitoring and diagnostics platform, it allows automation engineers to connect, configure, and visualize your factory floor in real-time. Built to support IEC 61131-3 standards, the platform enables seamless transitions between high-level logic creation and granular field I/O mapping. By combining a robust virtual simulation engine with a modular, reusable control library framework, minimizes engineering errors, accelerates plant deployment, and maximizes system uptime during critical operational phases.

ENGINEERING FUTURE WITH SAKSHAM CORE

SAKSHAM CORE is an integrated Industrial Engineering ecosystem where CORE stands for

CONTROL — Advanced automation and logic engineering for efficient PLC programming and seamless industrial process control.

OPERATIONS — Centralized plant-level monitoring and diagnostics for real-time visibility and operational performance management.

RESPONSIVE — Real-time system responsiveness and operational stability for reliable industrial performance and continuous uptime.

ECOSYSTEM — Integrated IIot connectivity and industrial analytics for smart monitoring and connected automation systems.

SAKSHAM CORE is an integrated Industrial Engineering ecosystem designed to deliver intelligent control, centralized operations, responsive system performance, connected industrial analytics. Built for reliability and scalability, it combines automation engineering, plant-level monitoring, IIoT connectivity, and real-time diagnostics into a unified platform for next-generation industrial digitalization.

FEATURES OF SAKSHAM CORE

ENGINEERING WORKSPACE

Build and deploy industrial process logic using an IEC 61131-3 engineering platform with real-time debugging and modular programming support.

HMI & SCADA BUILDER

Build scalable SCADA and HMI applications with real-time monitoring, alarm management, process visualization, and centralized operational control.

COMMUNICATION

Native support for Profinet, Modbus-TCP/IP, Modbus-RTU, OPC-UA, OPC-DA Supports seamless industrial connectivity.

CONFIGURATION

Advanced module configuration and centralized tag management for simplified parameter mapping and seamless device level integration.

MONITORING

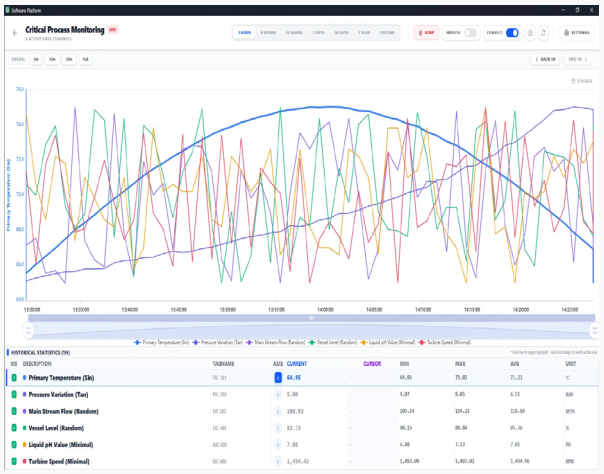
Real-time visualization and KPI dashboarding for centralized industrial monitoring and operational intelligence.

DIAGNOSTICS

Advanced network diagnostics and PLC log analysis for rapid detection of system bottlenecks and abnormal industrial events.

KEY PLATFORM ADVANTAGES

- Real-time industrial monitoring and diagnostics for plant-wide operational visibility.
- Seamless PLC and industrial protocol integration across connected automation systems.
- Modular and scalable software architecture for flexible industrial deployment requirements.
- Centralized data visualization and analytics for intelligent performance monitoring.



SPECIALIZED INDUSTRIAL MODULES

Advanced industrial tools designed for monitoring, diagnostics, analytics, and automation management.

SAKSHAM CORE DASHBOARDS

Real-time industrial dashboards for centralized process monitoring,
KPI visualization, live operational analysis, and performance tracking.

SAKSHAM CORE TRENDS

Analyze historical process data through intelligent trend visualization,
Performance tracking, predictive analytics, and process optimization tools.

SAKSHAM CORE E-LOGBOOK

Digitally record production activities, operator logs, shift-based reports,
Alarm history, and real-time industrial process information efficiently.

RECIPE MANAGER

Manage industrial parameters, configurations, production recipes,
Batch operations, and centralized process control management efficiently.

NETWORK MONITORING

Continuously monitor PLC communication, network health, device connectivity,
System diagnostics, and industrial infrastructure availability in real time.

BACKUP & RESTORE

Securely backup automation projects and rapidly restore critical industrial
System configurations, archived data, and operational engineering files.

INDUSTRIAL WORKFLOW & SYSTEM INTEGRATION

01

CONTROL APPLICATION

Configure PLC data sources and network parameters via the Data Source Registry.

02

DATA MONITORING

Map industrial tags to real-time dashboard widgets or historical trend views.

03

DIAGNOSTICS & ANALYSIS

Use the Live Network and Log view to identify bottleneck or process deviations

04

REPORTING & OPTIMIZATION

Securely archive data and generate insights for plant-wide optimization.

WHY CHOOSE SAKSHAM CORE?

- **RELIABLE PERFORMANCE**

  Built on a high-performance industrial engine for stable real-time monitoring and continuous operational reliability.

- **MODULAR ARCHITECTURE**

  Flexible and scalable software modules designed to adapt to evolving industrial automation requirements.

- **FAST DEPLOYMENT**

  Quick installation and streamlined configuration reduce engineering time and accelerate plant deployment.

- **INDUSTRIAL CONNECTIVITY**

  Supports OPC UA, Modbus TCP/IP, PROFINET, and other industrial communication protocols seamlessly.

- **SMART ANALYTICS**

  Advanced dashboards and trend analysis tools provide actionable insights for process optimization and monitoring.

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MAKE IN INDIA

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