



AMVAJE ABI
ELECTRONICS INDUSTRY

Allen-Bradley

PLC-5

Allen-Bradley PLC-5	4
1771-OBD&OBDK	6
1771-IBDK	6
1771-IFEK	7
1771-NIS/C	7
1771-NR/C	8
1771-OFE2K/B	8
1771-P4S/B	9
1771-A1B Backplane	9
1771-DB(3100-MCM)	10

Amvaje Abi: A Legacy of Expertise and Commitment to Quality

Amvaje Abi Company stands at the forefront of the industry, boasting over two decades of invaluable experience in designing, manufacturing, and advancing control systems and precision tools. Specializing in various sectors, particularly oil and gas, this knowledge-based company has earned its reputation as a trailblazer in Iran.

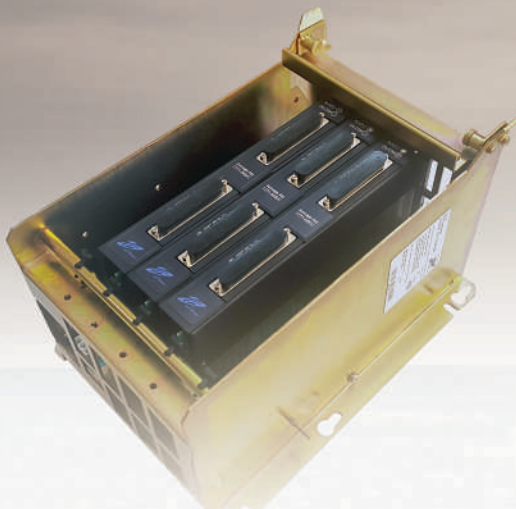
Established in 2002 with a mission to develop electronic systems tailored to the nation's needs, Amvaje Abi has evolved significantly over the years. In 2010, facing economic sanctions and stringent restrictions, the company successfully diversified into the production of control systems and precision tools, consistently delivering top-notch products across industries like oil and gas, mining, and steel.

Amvaje Abi's journey includes remarkable milestones, such as expanding R&D units, stringent quality control measures, and efficient production in the engineering department in Shiraz. Complemented by a management and commercial branch in Tehran, the company operates with a dedicated team of over 50 experts and skilled engineers, all alums of prestigious universities in the country.

In its commitment to international standards, Amvaje Abi has earned membership in the EP and AVL list of the Ministry of Petroleum and the National Petrochemical Company. The company has also secured multiple certifications and approvals from renowned organizations like the Association of Oil and Gas Industry Equipment Manufacturers and the Industrial Automation Companies Association.

With a portfolio boasting over 200 successful products, Amvaje Abi has achieved essential certifications domestically and internationally and has also seen exclusive use in major Iranian refineries and petrochemical plants by getting an exclusive MESC Code. Notable among these are the Pars South Gas Complex, Khangiran, Parsian, Shazand Oil, and numerous other significant petrochemical complexes.

Building on its rich experiences, Amvaje Abi has ventured into international trade, exporting its high-quality products to various countries. Committed to excellence, development, support, and the incorporation of cutting-edge technologies, the company has solidified its position as a leading force in Iran's electronic and industrial control industry and is recognized as a dependable supplier.



Allen-Bradley PLC-5

A prominent system from the renowned company Rockwell Automation, the PLC-5 series, seamlessly integrates advanced control capabilities into industrial operations, enhancing productivity and simplifying complex processes. Recognized for its robustness, compatibility, and vibration-resistant performance in diverse industrial environments, the PLC-5 series stands out as a highly reliable Programmable Logic Controller (PLC) for refinery processes. Redesigned and domestically produced by Amvaje Abi Electronics, it offers the following advantages:

Key features

- **Adaptability:** The PLC-5 series is renowned for its compatibility across a diverse range of industrial applications. From digital control to various process control types, it comprehensively meets the diverse needs of automation.
- **Reliability:** The rugged design and reliable performance of this system make it a suitable choice for critical industrial environments where stability and continuity in operations are crucial.
- **Diverse I/O Offerings:** The extensive I/O flexibility enables precise control of equipment and facilitates the integration of various sensors and actuators.

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- **Advanced Programming Capability:** PLC-5, equipped with powerful programming tools, efficiently executes complex control logic. Its programming environment supports ladder logic, function block diagrams, and structured text, aiding engineers in performing complex automation tasks.
 - **Advanced Diagnostic and Troubleshooting Tools:** The PLC-5 series is equipped with advanced troubleshooting tools that simplify the process of detection and problem resolution. Real-time monitoring, error detection, and comprehensive troubleshooting tools contribute to faster issue resolution, minimizing downtime.
 - **Replacement of Special and Rare ICs with Up-to-Date Components**
 - **High-precision Digital and Analog Cards and Modbus Communication Cards**
 - **Utilized in operational zones, offshore platforms, and refineries of Pars Gas and South Pars Gas Complex**
 - **Performance approval from Pars South Gas Complex**

These features collectively contribute to the PLC-5 series being one of the most reliable PLCs used in refinery processes.

Modules

1771-OBD&OBDK

- Discrete Output Card
- Number of channels: 16
- Output Voltage Range: 10 to 60 VDC
- Output Current Rating: 2A per Output, 8A per Module
- Backplane Current: 130mA at 5VDC $\pm 5\%$
- Electrical Isolation: 1000V AC (rms)

1771-OBD&OBDK



1771-IBDK

- Discrete Input Card
- Number of channels: 16
- Input Voltage range: 10 to 30V DC
- Maximum Off-state Voltage: 5V DC
- Minimum On-state Voltage: 10V DC
- Backplane Current: 130mA at 5V DC $\pm 5\%$
- Input Impedance: 2.2K ohms maximum

1771-OBD&OBDK



1771-IFEK

- Analog Input Card
- Number of channels: 16 single-ended; 8 differential
- Input Voltage ranges (nominal):
 - i. +1 to +5V dc
 - ii. 0 to 5V dc
 - iii. -5 to +5V dc
 - iv. -10 to +10V dc
 - v. 0 to +10V dc
- Input Current ranges (nominal):
 - i. +4 to +20mA
 - ii. 0 to +20mA
 - iii. -20 to +20mA
- Resolution: 12-bit binary
- Accuracy: 0.1% of full-scale range at 25°C
- Isolation Voltage: $\pm 1500V$, (transient)
- Backplane Current: 0.75A at +5V from I/O chassis backplane



1771-NIS/C

- Isolated Analog Input Card
- Number of channels: 8 individually isolated
- Input range: 0.1-21.0 mA
- Resolution: 16 bits
- Accuracy with Calibration: 0.05% of full range
- Input Impedance: 300 Ω (Maximum)
- Update time: 25ms(Maximum)
- Backplane Current: 2.9A at 5V DC $\pm 5\%$
- Loop Power Voltage Source: 20 to 30V DC
- Under range Threshold: 3.2mA
- Over-range Threshold: 21.0mA

1771-NRC

- Isolated Analog Input Card (RTD Type)
- Number of channels: 8 individually isolated
- Input range:
 - i. 4.0 to 650 Ω
 - ii. 100 Ω PT
 - iii. 10 Ω Copper
 - iv. 12 Ω Nickel
- Resolution: 16 bits
- RTD Excitation Current: 1mA
- Update time: 25ms (Maximum)
- Backplane Current: 2.9A at 5V DC $\pm$ 5%
- Accuracy with Calibration: 0.05% of full range
- Under range Threshold: 0.9 Ω
- Over range Threshold: 650.0 Ω



1771-OFE2K/B

- Isolated Analog Output Card
- Outputs per Module: 4 individually isolated
- Output Current range: +4 to +20 mA
- Resolution: 12-bit Binary
- Accuracy: +0.1% of full scale
- Max Loop Impedance: Up to 1200 Ω Load Resistance
- Backplane Current: 1.50A at 5V DC $\pm$ 5%
- Internal scan rate: 8.0ms for all Channels
- Isolation: 1000Vrms

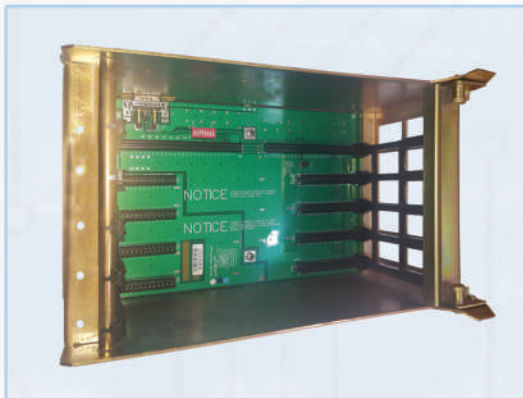
1771-P4S/B

- Power supply of CPU card and I/O cards of PLC-5 system
- Input: 120VAC – 0.9A
- Output: 5VDC-8A



1771-A1B Backplane

- Universal IO Chassis
- Type of Mount: Panel
- Number of IO Module Slots: 4
- Number of CPU Module Slots: 1
- Maximum Backplane Current: 16A at 5V DC



1771-DB(3100-MCM)

- Modbus Communication Card
- Number of Ports: 2
- Communications: RS-232C /RS-422/RS-485

User Data Memory: 4000 words

- Software Configuration:

- Slave Address: 1 to 247
- Parity: None, odd, or even
- Stop Bit: 1 or 2
- Baud Rate: 300 To 38,400
- RTS to TxD: 0 to 65535 milliseconds
- RTS Off 0 to 65535 milliseconds
- Timeout: 0 to 65535 milliseconds

Port Configuration: Master/Slave

Backplane Current: 0.65A at 5V dc $\pm 5\%$



Company's Services

- Engineering and Manufacturing Services:

- Designing various electronic and control systems.
- Reverse engineering and redesigning electronic cards and control systems.
- Electronic component assembly and mass production of various electronic and control systems.
- Testing and quality control of electronic cards.

- Specialized commercial services:

- Consultation and procurement of industrial control systems.
- Consultation and procurement of various electronic, telecommunication, and precision instruments.
- Consult and procure remote control wireless systems.

- Specialized Repairs:

- Specialized repair of electronic cards and precision instruments for refineries and petrochemical plants.

- Training and Technical Engineering Support

- Updating and Upgrading electronic and control systems

- Control Systems Integration and Commissioning

○ In addition to its diverse and prominent activities, Amvaje Abi Company, with its essential capabilities, is recognized as one of the active companies in the field of designing and integrating control systems and precision instruments. This includes implementation, commissioning, support, and maintenance. The Instrument and Control System Department of Amvaje Abi, with over 15 years of practical experience in industrial automation and precision instruments, has become a key player in providing suitable solutions for major industries, including oil and gas, petrochemicals, steel, etc.

The primary activities and services of the Instrument and Control System Department at Amvaje Abi:

- Consultation and Engineering
- Software design and development
- Conducting FAT processes
- Upgrading and Revamping
- Procurement of project components
- Design of engineering documents and documentation
- Control systems Integration and precision instruments
- Cybersecurity Based On Project Requirements
- SAT
- Commissioning
- Repair and Maintenance
- Training
- Project Management

Customers



Certificates and Standards

Implemented Standards

IEC 61508-7-210

BSI BS EN 60079-0

BSI BS EN 60079-1

BSI BS EN 60079-20-1

BSI BS EN 60079-7

IEC 61132-2 2017

IEC-60529

IPC 2221B

IPC 2222A

IPC 7351B

IPC 7711C.7721C

IPC A-600J

IPC A-610F A1-2016

ISO IEC 80079-34-2018

ISO9001-2015

Membership Certificate Of Industrial Automation Companies Association



Membership Certificate Of Association of Oil and Gas Industry Equipment Manufacturers



Operation License



Membership in the AVL of the Oil Ministry



Knowledge enterprise Appraisal

نوع فعالیت: تولیدی

آزمایشگاه ارزیابی دانش و مهارت کارکنان

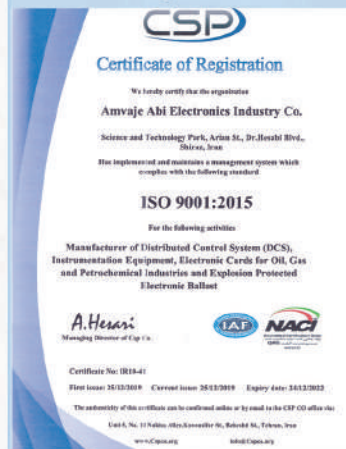
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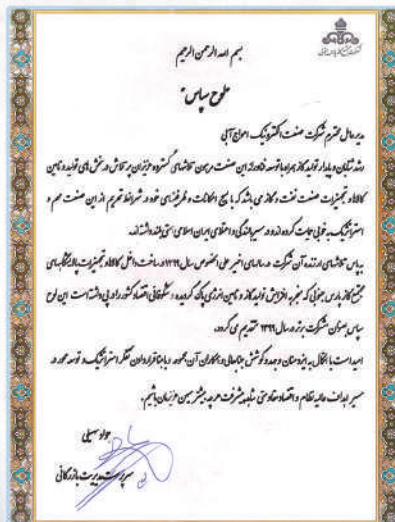
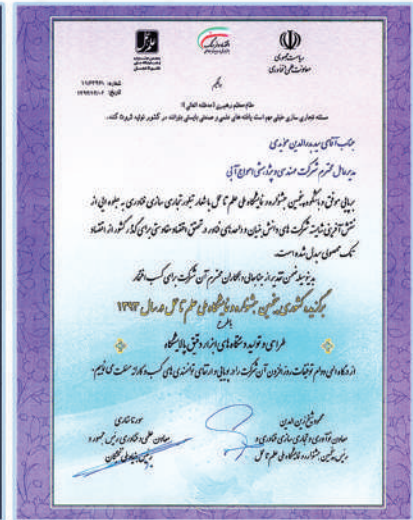
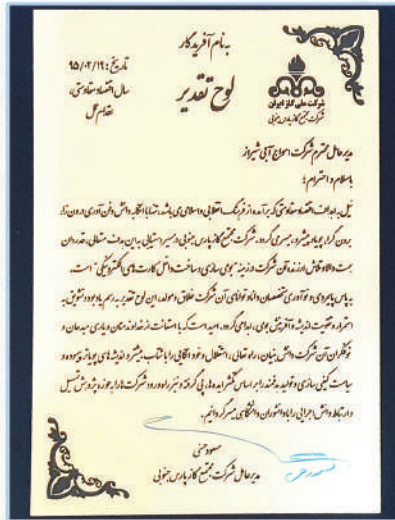
تاریخ: 1395/1396

محل: آزمایشگاه ارزیابی دانش و مهارت کارکنان

Quality Control According To ISO9001



Appreciation Letters





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