INDUSTRIAL CONTROLS CHEAT SHEET

A quick and dirty guide for many of the names and acronyms that are commonly encountered.

ACRONYM	FULL NAME	QUICK DEFENITION
ICS	Industrial Control System	General name for control systems
SCADA	Supervisory Control And Data Acquisition	Control systems primarily for power grid systems
IED	Intelligent Electronic Device	Typically referred to as the simplest block of an ICS
TLA	Three Letter Acronym	Quick notation for three-word acronyms
FLA	Four Letter Acronym	Quick notation for four-word acronyms
PLC	Programmable Logic Controller	Standard process control device
RTD	Resistive Thermal Device	Device used for sensing and measuring temperature
TC	Thermo-Couple	Device used for sensing and measuring temperature
SEL-FM	SEL Fast-Message Protocol	SEL proprietary, self-describing, SCADA protocol
MB	Mirrored Bits Protocol	SEL proprietary, high-speed protection protocol
DNP	Distributed Network Protocol	Industrial standard SCADA protocol
MOD	Modbus	Antiquated industrial standard SCADA protocol
IEC	International Electrotechnical Commission	Industrial/Electrical standards organization
ANSI	American National Standards Institute	Industrial/Electrical standards organization
TCP/IP	Transmission Control Protocol/Internet Protocol	Component of the conceptual ethernet model
ETHERNET I/P	Ethernet Industrial Protocol	Not to be confused with TCP/IP (Internet Protocol)
GOOSE	Generic Object Oriented Substation Events	Peer-to-Peer protocol of the IEC-61850 family
RTU	Remote Terminal Unit	Remote I/O device
VFD	Variable Frequency Drive	Speed control for an AC motor
VSD	Variable Speed Drive	Another name for speed control for an AC motor
ASD	Adjustable Speed Drive	Another name for speed control for an AC motor
MMS	Manufacturing Message Specification	SCADA protocol of the IEC-61850 family
SV	Sampled Values	Analog measurement protocol of the IEC-61850 family
CFC	Continuous Function Chart	A block style of logic implementation in IEC-61131
LD	Ladder Diagram	A contact style of logic implementation in IEC-61131
ST	Structured Text	A code style of logic implementation in IEC-61131
HMI	Human Machine Interface	Visual monitoring and control interface
DB9	N/A	9-pin serial connector shaped like a D (or B?)
RJ45	N/A	Standard ethernet connector
COM-PROC	Communications Processor	An IED that processes and aggregates communication
RTAC	Real Time Automation Controller	SEL proprietary com-proc and logic controller
TCP	Transmission Control Protocol	Reliable, but verbose, method of ethernet comms
UDP	User Datagram Protocol	Simple, but error prone, method of ethernet comms
RX	Receive/Receiver	Channel for accepting data input
TX	Transmit/Transmitter	Channel for providing data output
BASE-T	N/A	Copper Ethernet Port (RJ45 connector)
BASE-FX	N/A	Fiber Ethernet Port (commonly LC connector)
PTP	Precise Time Protocol	High-accuracy ethernet-based time protocol
SNTP	Simple Network Time Protocol	Moderate-accuracy ethernet-based time protocol
SNMP	Simple Network Management Protocol	Ethernet control device management protocol
STP	Spanning Tree Protocol	Ethernet failover management protocol
RSTP	Rapid Spanning Tree Protocol	Medium speed Ethernet failover management protocol
IRIG-B	Inter-Range Instrument Group version B	Serial/Coaxial-Based time distribution protocol
SMTP	Simple Mail Transfer Protocol	Email transfer protocol
PRP	Parallel Redundancy Protocol	Ethernet redundancy and failover method
FTP	File Transfer Protocol	Ethernet-based file transfer protocol
SFTP	Secure File Transfer Protocol	Secured ethernet-based file transfer protocol
DFR	Digital Fault Recorder	Digital system for recording fault data
DDR	Digital Disturbance Recorder	Digital system for trending disturbance data
SOE/SER	Sequence Of Events/Sequential Event Recorder	Sequential state change recorder