

5.1 List of Instructions

| Category | API | Mnemonic | | P instruction | Function | Applicable to | | | STEPS | | Page |
|---------------------------|------|----------|--------|---------------------------|---|---------------|----|----|--------|--------|------|
| | | 16-bit | 32-bit | | | ES | SA | EH | 16-bit | 32-bit | |
| Loop Control | 00 | CJ | - | ✓ | Conditional Jump | ✓ | ✓ | ✓ | 3 | - | 6-1 |
| | 01 | CALL | - | ✓ | Call Subroutine | ✓ | ✓ | ✓ | 3 | - | 6-5 |
| | 02 | SRET | - | - | Subroutine Return | ✓ | ✓ | ✓ | 1 | - | 6-5 |
| | 03 | IRET | - | - | Interrupt Return | ✓ | ✓ | ✓ | 1 | - | 6-8 |
| | 04 | EI | - | - | Enable Interrupts | ✓ | ✓ | ✓ | 1 | - | 6-8 |
| | 05 | DI | - | - | Disable Interrupts | ✓ | ✓ | ✓ | 1 | - | 6-8 |
| | 06 | FEND | - | - | The End of The Main Program (First End) | ✓ | ✓ | ✓ | 1 | - | 6-12 |
| | 07 | WDT | - | ✓ | Watchdog Timer Refresh | ✓ | ✓ | ✓ | 1 | - | 6-14 |
| | 08 | FOR | - | - | Start of a FOR-NEXT loop | ✓ | ✓ | ✓ | 3 | - | 6-15 |
| 09 | NEXT | - | - | End of a FOR-NEXT loop | ✓ | ✓ | ✓ | 1 | - | 6-15 | |
| Transmission Comparison | 10 | CMP | DCMP | ✓ | Compare | ✓ | ✓ | ✓ | 7 | 13 | 6-18 |
| | 11 | ZCP | DZCP | ✓ | Zone Compare | ✓ | ✓ | ✓ | 9 | 17 | 6-19 |
| | 12 | MOV | DMOV | ✓ | Move | ✓ | ✓ | ✓ | 5 | 9 | 6-20 |
| | 13 | SMOV | - | ✓ | Shift Move | - | ✓ | ✓ | 11 | - | 6-21 |
| | 14 | CML | DCML | ✓ | Compliment | ✓ | ✓ | ✓ | 5 | 9 | 6-23 |
| | 15 | BMOV | - | ✓ | Block Move | ✓ | ✓ | ✓ | 7 | - | 6-24 |
| | 16 | FMOV | DFMOV | ✓ | Fill Move | ✓ | ✓ | ✓ | 7 | 13 | 6-26 |
| | 17 | XCH | DXCH | ✓ | Exchange | ✓ | ✓ | ✓ | 5 | 9 | 6-27 |
| | 18 | BCD | DBCD | ✓ | Binary Coded Decimal | ✓ | ✓ | ✓ | 5 | 9 | 6-29 |
| 19 | BIN | DBIN | ✓ | Binary | ✓ | ✓ | ✓ | 5 | 9 | 6-30 | |
| Four Arithmetic Operation | 20 | ADD | DADD | ✓ | Addition | ✓ | ✓ | ✓ | 7 | 13 | 6-32 |
| | 21 | SUB | DSUB | ✓ | Subtraction | ✓ | ✓ | ✓ | 7 | 13 | 6-34 |
| | 22 | MUL | DMUL | ✓ | Multiplication | ✓ | ✓ | ✓ | 7 | 13 | 6-35 |
| | 23 | DIV | DDIV | ✓ | Division | ✓ | ✓ | ✓ | 7 | 13 | 6-37 |
| | 24 | INC | DINC | ✓ | Increment | ✓ | ✓ | ✓ | 3 | 5 | 6-39 |
| | 25 | DEC | DDEC | ✓ | Decrement | ✓ | ✓ | ✓ | 3 | 5 | 6-40 |
| | 26 | WAND | DAND | ✓ | Logical Word AND | ✓ | ✓ | ✓ | 7 | 13 | 6-41 |
| | 27 | WOR | DOR | ✓ | Logical Word OR | ✓ | ✓ | ✓ | 7 | 13 | 6-42 |
| | 28 | WXOR | DXOR | ✓ | Logical Exclusive OR | ✓ | ✓ | ✓ | 7 | 13 | 6-43 |
| 29 | NEG | DNEG | ✓ | 2's Complement (Negative) | ✓ | ✓ | ✓ | 3 | 5 | 6-44 | |
| Rotation & Displacement | 30 | ROR | DROR | ✓ | Rotation Right | ✓ | ✓ | ✓ | 5 | 9 | 6-46 |
| | 31 | ROL | DROL | ✓ | Rotation Left | ✓ | ✓ | ✓ | 5 | 9 | 6-47 |
| | 32 | RCR | DRCR | ✓ | Rotation Right with Carry | ✓ | ✓ | ✓ | 5 | 9 | 6-48 |
| | 33 | RCL | DRCL | ✓ | Rotation Left with Carry | ✓ | ✓ | ✓ | 5 | 9 | 6-49 |
| | 34 | SFTR | - | ✓ | Bit Shift Right | ✓ | ✓ | ✓ | 9 | - | 6-50 |
| | 35 | SFTL | - | ✓ | Bit Shift Left | ✓ | ✓ | ✓ | 9 | - | 6-51 |
| | 36 | WSFR | - | ✓ | Word Shift Right | - | ✓ | ✓ | 9 | - | 6-52 |
| | 37 | WSFL | - | ✓ | Word Shift Left | - | ✓ | ✓ | 9 | - | 6-54 |
| | 38 | SFWR | - | ✓ | Shift Register Write | - | ✓ | ✓ | 7 | - | 6-55 |
| 39 | SFRD | - | ✓ | Shift Register Read | - | ✓ | ✓ | 7 | - | 6-56 | |
| Data Processing | 40 | ZRST | - | ✓ | Zero Reset | ✓ | ✓ | ✓ | 5 | - | 6-57 |
| | 41 | DECO | - | ✓ | Decode | ✓ | ✓ | ✓ | 7 | - | 6-59 |
| | 42 | ENCO | - | ✓ | Encode | ✓ | ✓ | ✓ | 7 | - | 6-61 |
| | 43 | SUM | DSUM | ✓ | Sum of Active Bits | ✓ | ✓ | ✓ | 5 | 9 | 6-63 |
| | 44 | BON | DBON | ✓ | Check Specified Bit Status | ✓ | ✓ | ✓ | 7 | 13 | 6-64 |
| | 45 | MEAN | DMEAN | ✓ | Mean | ✓ | ✓ | ✓ | 7 | 13 | 6-65 |
| | 46 | ANS | - | - | Timed Annunciator Set | - | ✓ | ✓ | 7 | - | 6-66 |
| | 47 | ANR | - | ✓ | Annunciator Reset | - | ✓ | ✓ | 1 | - | 6-66 |
| | 48 | SQR | DSQR | ✓ | Square Root | ✓ | ✓ | ✓ | 5 | 9 | 6-72 |
| 49 | FLT | DFLT | ✓ | Floating Point | ✓ | ✓ | ✓ | 5 | 9 | 6-70 | |
| High Speed Processing | 50 | REF | - | ✓ | Refresh | ✓ | ✓ | ✓ | 5 | - | 7-1 |
| | 51 | REFF | - | ✓ | Refresh and Filter Adjust | - | ✓ | ✓ | 3 | - | 7-2 |
| | 52 | MTR | - | - | Input Matrix | - | ✓ | ✓ | 9 | - | 7-3 |
| | 53 | - | DHSCS | - | High Speed Counter Set | ✓ | ✓ | ✓ | - | 13 | 7-5 |
| | 54 | - | DHSCR | - | High Speed Counter Reset | ✓ | ✓ | ✓ | - | 13 | 7-15 |

5 Categories & Use of Application Instructions

| Category | API | Mnemonic | | P instruction | Function | Applicable to | | | STEPS | | Page |
|------------------------------|------|----------|--------|---------------------|------------------------------------|---------------|----|----|--------|--------|-------|
| | | 16-bit | 32-bit | | | ES | SA | EH | 16-bit | 32-bit | |
| High Speed Processing | 55 | - | DHSZ | - | High Speed Zone Compare | - | ✓ | ✓ | - | 17 | 7-17 |
| | 56 | SPD | - | - | Speed Detection | ✓ | ✓ | ✓ | 7 | - | 7-24 |
| | 57 | PLSY | DPLSY | - | Pulse Y Output | ✓ | ✓ | ✓ | 7 | 13 | 7-26 |
| | 58 | PWM | - | - | Pulse Width Modulation | ✓ | ✓ | ✓ | 7 | - | 7-32 |
| | 59 | PLSR | DPLSR | - | Pulse Ramp | ✓ | ✓ | ✓ | 9 | 17 | 7-35 |
| Handy Instructions | 60 | IST | - | - | Initial State | ✓ | ✓ | ✓ | 7 | - | 7-39 |
| | 61 | SER | DSER | ✓ | Search a Data Stack | - | ✓ | ✓ | 9 | 17 | 7-45 |
| | 62 | ABSD | DABSD | - | Absolute Drum Sequencer | - | ✓ | ✓ | 9 | 17 | 7-46 |
| | 63 | INCD | - | - | Incremental Drum Sequencer | - | ✓ | ✓ | 9 | - | 7-48 |
| | 64 | TTMR | - | - | Teaching Timer | - | ✓ | ✓ | 5 | - | 7-50 |
| | 65 | STMR | - | - | Special Timer | - | ✓ | ✓ | 7 | - | 7-52 |
| | 66 | ALT | - | ✓ | Alternate State | ✓ | ✓ | ✓ | 3 | - | 7-54 |
| | 67 | RAMP | - | - | Ramp Variable Value | - | ✓ | ✓ | 9 | - | 7-55 |
| Display of External Settings | 69 | SORT | - | - | Sort Tabulated Data | - | ✓ | ✓ | 11 | - | 7-57 |
| | 70 | TKY | DTKY | - | Ten Key Input | - | ✓ | ✓ | 7 | 13 | 7-59 |
| | 71 | HKY | DHKY | - | Hexadecimal Key Input | - | ✓ | ✓ | 9 | 17 | 7-61 |
| | 72 | DSW | - | - | Digital Switch | - | ✓ | ✓ | 9 | - | 7-64 |
| | 73 | SEGD | - | ✓ | Seven Segment Decoder | ✓ | ✓ | ✓ | 5 | - | 7-66 |
| | 74 | SEGL | - | - | Seven Segment with Latch | ✓ | ✓ | ✓ | 7 | - | 7-67 |
| | 75 | ARWS | - | - | Arrow Switch | - | ✓ | ✓ | 9 | - | 7-70 |
| | 76 | ASC | - | - | ASCII Code Conversion | - | ✓ | ✓ | 11 | - | 7-72 |
| Serial I/O | 77 | PR | - | - | Print (ASCII Code Output) | - | ✓ | ✓ | 5 | - | 7-73 |
| | 78 | FROM | DFROM | ✓ | Read CR Data in Special Modules | ✓ | ✓ | ✓ | 9 | 17 | 7-75 |
| | 79 | TO | DTO | ✓ | Write CR Data into Special Modules | ✓ | ✓ | ✓ | 9 | 17 | 7-76 |
| | 80 | RS | - | - | Serial Communication Instruction | ✓ | ✓ | ✓ | 9 | - | 7-80 |
| | 81 | PRUN | DPRUN | ✓ | Parallel Run | - | ✓ | ✓ | 5 | 9 | 7-93 |
| | 82 | ASCI | - | ✓ | Converts Hex to ASCII | ✓ | ✓ | ✓ | 7 | - | 7-94 |
| | 83 | HEX | - | ✓ | Converts ASCII to Hex | ✓ | ✓ | ✓ | 7 | - | 7-98 |
| | 84 | CCD | - | ✓ | Check Code | - | ✓ | ✓ | 7 | - | 7-101 |
| | 85 | VRRD | - | ✓ | Volume Read | - | ✓ | ✓ | 5 | - | 7-103 |
| | 86 | VRSC | - | ✓ | Volume Scale | - | ✓ | ✓ | 5 | - | 7-105 |
| | 87 | ABS | DABS | ✓ | Absolute Value | ✓ | ✓ | ✓ | 3 | 5 | 7-106 |
| 88 | PID | DPID | - | PID Control Loop | ✓ | ✓ | ✓ | 9 | 17 | 7-107 | |
| Basic Instructions | 89 | PLS | - | - | Rising-edge Output | ✓ | ✓ | ✓ | 3 | - | 3-13 |
| | 90 | LDP | - | - | Rising-edge Detection Operation | ✓ | ✓ | ✓ | 3 | - | 3-11 |
| | 91 | LDF | - | - | Falling-edge Detection Operation | ✓ | ✓ | ✓ | 3 | - | 3-12 |
| | 92 | ANDP | - | - | Rising-edge Series Connection | ✓ | ✓ | ✓ | 3 | - | 3-12 |
| | 93 | ANDF | - | - | Falling-edge Series Connection | ✓ | ✓ | ✓ | 3 | - | 3-12 |
| | 94 | ORP | - | - | Rising-edge Parallel Connection | ✓ | ✓ | ✓ | 3 | - | 3-13 |
| | 95 | ORF | - | - | Falling-edge Parallel Connection | ✓ | ✓ | ✓ | 3 | - | 3-13 |
| | 96 | TMR | - | - | 16-bit Timer | ✓ | ✓ | ✓ | 4 | - | 3-8 |
| | 97 | CNT | DCNT | - | 16-bit / 32-bit Counter | ✓ | ✓ | ✓ | 4 | 6 | 3-9 |
| | 98 | INV | - | - | Inverting Operation | ✓ | ✓ | ✓ | 1 | - | 3-15 |
| | 99 | PLF | - | - | Falling-edge Output | ✓ | ✓ | ✓ | 3 | - | 3-14 |
| Communication | 100 | MODRD | - | - | Read Modbus Data | ✓ | ✓ | ✓ | 7 | - | 8-1 |
| | 101 | MODWR | - | - | Write Modbus Data | ✓ | ✓ | ✓ | 7 | - | 8-5 |
| | 102 | FWD | - | - | Forward Running of VFD-A | ✓ | ✓ | ✓ | 7 | - | 8-10 |
| | 103 | REV | - | - | Reverse Running of VFD-A | ✓ | ✓ | ✓ | 7 | - | 8-10 |
| | 104 | STOP | - | - | Stop VFD-A | ✓ | ✓ | ✓ | 7 | - | 8-10 |
| | 105 | RDST | - | - | Read VFD-A Status | ✓ | ✓ | ✓ | 5 | - | 8-13 |
| | 106 | RSTEF | - | - | Reset Abnormal VFD-A | ✓ | ✓ | ✓ | 5 | - | 8-15 |
| | 107 | LRC | - | ✓ | Checksum LRC Mode | ✓ | ✓ | ✓ | 7 | - | 8-16 |
| | 108 | CRC | - | ✓ | Checksum CRC Mode | ✓ | ✓ | ✓ | 7 | - | 8-18 |
| 109 | SWRD | - | ✓ | Read Digital Switch | - | - | ✓ | 3 | - | 8-20 | |

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| | | 16-bit | 32-bit | | | ES | SA | EH | 16-bit | 32-bit | |
| Floating Point Operation | 110 | - | DECOMP | ✓ | Floating Point Compare | ✓ | ✓ | ✓ | - | 13 | 8-21 |
| | 111 | - | DEZCP | ✓ | Floating Point Zone Compare | ✓ | ✓ | ✓ | - | 17 | 8-22 |
| | 112 | - | DMOVVR | ✓ | Move Floating Point Data | ✓ | ✓ | ✓ | - | 9 | 8-23 |
| | 116 | - | DRAD | ✓ | Angle → Radian | - | ✓ | ✓ | - | 9 | 8-24 |
| | 117 | - | DDEG | ✓ | Radian → Angle | - | ✓ | ✓ | - | 9 | 8-25 |
| | 118 | - | DEBCD | ✓ | Float to Scientific Conversion | ✓ | ✓ | ✓ | - | 9 | 8-26 |
| | 119 | - | DEBIN | ✓ | Scientific to Float Conversion | ✓ | ✓ | ✓ | - | 9 | 8-27 |
| | 120 | - | DEADD | ✓ | Floating Point Addition | ✓ | ✓ | ✓ | - | 13 | 8-29 |
| | 121 | - | DESUB | ✓ | Floating Point Subtraction | ✓ | ✓ | ✓ | - | 13 | 8-30 |
| | 122 | - | DEMUL | ✓ | Floating Point Multiplication | ✓ | ✓ | ✓ | - | 13 | 8-31 |
| | 123 | - | DEDIV | ✓ | Floating Point Division | ✓ | ✓ | ✓ | - | 13 | 8-32 |
| | 124 | - | DEXP | ✓ | Exponent of Binary Floating Point | ✓ | ✓ | ✓ | - | 9 | 8-33 |
| | 125 | - | DLN | ✓ | Natural Logarithm of Binary Floating Point | ✓ | ✓ | ✓ | - | 9 | 8-34 |
| | 126 | - | DLOG | ✓ | Logarithm of Binary Floating Point | ✓ | ✓ | ✓ | - | 13 | 8-35 |
| | 127 | - | DESQR | ✓ | Floating Point Square Root | ✓ | ✓ | ✓ | - | 9 | 8-36 |
| | 128 | - | DPOW | ✓ | Floating Point Power Operation | ✓ | ✓ | ✓ | - | 13 | 8-37 |
| | 129 | INT | DINT | ✓ | Float to Integer | ✓ | ✓ | ✓ | 5 | 9 | 8-38 |
| | 130 | - | DSIN | ✓ | Sine | ✓ | ✓ | ✓ | - | 9 | 8-39 |
| | 131 | - | DCOS | ✓ | Cosine | ✓ | ✓ | ✓ | - | 9 | 8-41 |
| | 132 | - | DTAN | ✓ | Tangent | ✓ | ✓ | ✓ | - | 9 | 8-43 |
| 133 | - | DASIN | ✓ | Arc Sine | - | ✓ | ✓ | - | 9 | 8-45 | |
| 134 | - | DACOS | ✓ | Arc Cosine | - | ✓ | ✓ | - | 9 | 8-46 | |
| 135 | - | DATAN | ✓ | Arc Tangent | - | ✓ | ✓ | - | 9 | 8-47 | |
| 136 | - | DSINH | ✓ | Hyperbolic Sine | - | - | ✓ | - | 9 | 8-48 | |
| 137 | - | DCOSH | ✓ | Hyperbolic Cosine | - | - | ✓ | - | 9 | 8-49 | |
| 138 | - | DTANH | ✓ | Hyperbolic Tangent | - | - | ✓ | - | 9 | 8-50 | |
| Others | 143 | DELAY | - | ✓ | Delay Instruction | - | ✓ | ✓ | 3 | - | 8-51 |
| | 144 | GPWM | - | - | General PWM Output | - | ✓ | ✓ | 7 | - | 8-52 |
| | 145 | FTC | - | - | Fuzzy Temperature Control | - | ✓ | ✓ | 9 | - | 8-53 |
| | 146 | CVM | - | - | Valve Control (*) | - | - | ✓ | 7 | - | 8-58 |
| | 147 | SWAP | DSWAP | ✓ | Byte Swap | ✓ | ✓ | ✓ | 3 | 5 | 8-61 |
| | 148 | MEMR | DMEMR | ✓ | Read File Register | - | ✓ | ✓ | 7 | 13 | 8-62 |
| | 149 | MEMW | DMEMW | ✓ | Write File Register | - | ✓ | ✓ | 7 | 13 | 8-63 |
| | 150 | MODRW | - | - | Read/Write MODBUS Data | ✓ | ✓ | ✓ | 11 | - | 9-1 |
| | 151 | PWD | - | - | Detection of Input Pulse Width | - | - | ✓ | 5 | - | 9-19 |
| | 152 | RTMU | - | - | Start of the Measurement of Execution Time of I Interruption | - | - | ✓ | 5 | - | 9-20 |
| | 153 | RTMD | - | - | End of the Measurement of the Execution Time of I Interruption | - | - | ✓ | 3 | - | 9-20 |
| | 154 | RAND | - | ✓ | Random Number | - | ✓ | ✓ | 7 | - | 9-22 |
| Position Control | 155 | - | DABSR | - | Read the Absolute Position from a Servo Motor | - | ✓ | ✓ | 7 | 13 | 9-23 |
| | 156 | ZRN | DZRN | - | Zero Return | - | - | ✓ | 9 | 17 | 9-28 |
| | 157 | PLSV | DPLSV | - | Adjustable Speed Pulse Output | - | - | ✓ | 7 | 13 | 9-32 |
| | 158 | DRVI | DDRVI | - | Drive to Increment | - | - | ✓ | 9 | 17 | 9-33 |
| | 159 | DRVA | DDRVA | - | Drive to Absolute | - | - | ✓ | 9 | 17 | 9-40 |
| Real Time Calendar | 160 | TCMP | - | ✓ | Time Compare | - | ✓ | ✓ | 11 | - | 9-52 |
| | 161 | TZCP | - | ✓ | Time Zone Compare | - | ✓ | ✓ | 9 | - | 9-53 |
| | 162 | TADD | - | ✓ | Time Addition | - | ✓ | ✓ | 7 | - | 9-54 |
| | 163 | TSUB | - | ✓ | Time Subtraction | - | ✓ | ✓ | 7 | - | 9-55 |
| | 166 | TRD | - | ✓ | Time Read | - | ✓ | ✓ | 3 | - | 9-56 |
| | 167 | TWR | - | ✓ | Time Write | - | ✓ | ✓ | 3 | - | 9-58 |
| | 169 | HOUR | DHOUR | - | Hour Meter | - | ✓ | ✓ | 7 | 13 | 9-60 |
| | 170 | GRY | DGRY | ✓ | BIN → Gray Code | - | ✓ | ✓ | 5 | 9 | 9-62 |
| | 171 | GBIN | DGBIN | ✓ | Gray Code → BIN | - | ✓ | ✓ | 5 | 9 | 9-63 |

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| | | 16-bit | 32-bit | | | ES | SA | EH | 16-bit | 32-bit | |
| Floating Point Operation | 172 | - | DADDR | ✓ | Floating Point Addition | ✓ | ✓ | ✓ | - | 13 | 9-64 |
| | 173 | - | DSUBR | ✓ | Floating Point Subtraction | ✓ | ✓ | ✓ | - | 13 | 9-65 |
| | 174 | - | DMULR | ✓ | Floating Point Multiplication | ✓ | ✓ | ✓ | - | 13 | 9-66 |
| | 175 | - | DDIVR | ✓ | Floating Point Division | ✓ | ✓ | ✓ | - | 13 | 9-67 |
| | 176 | MMOV | - | ✓ | Magnify Move | - | ✓ | ✓ | 5 | - | 9-68 |
| Matrix | 180 | MAND | - | ✓ | Matrix 'AND' Operation | - | ✓ | ✓ | 9 | - | 9-69 |
| | 181 | MOR | - | ✓ | Matrix 'OR' Operation | - | ✓ | ✓ | 9 | - | 9-71 |
| | 182 | MXOR | - | ✓ | Matrix 'XOR' Operation | - | ✓ | ✓ | 9 | - | 9-72 |
| | 183 | MXNR | - | ✓ | Matrix 'XNR' Operation | - | ✓ | ✓ | 9 | - | 9-73 |
| | 184 | MINV | - | ✓ | Matrix Inverse Operation | - | ✓ | ✓ | 7 | - | 9-74 |
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| | 186 | MBRD | - | ✓ | Read Matrix Bit | - | ✓ | ✓ | 7 | - | 9-77 |
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| | 189 | MBR | - | ✓ | Matrix Bit Rotation | - | ✓ | ✓ | 7 | - | 9-83 |
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| Positioning Instruction | 191 | - | DPPMR | - | 2-Axis Relative Point to Point Motion (*) | - | - | ✓ | - | 17 | 9-86 |
| | 192 | - | DPPMA | - | 2-Axis Absolute Point to Point Motion (*) | - | - | ✓ | - | 17 | 9-89 |
| | 193 | - | DCIMR | - | 2-Axis Relative Position Arc Interpolation (*) | - | - | ✓ | - | 17 | 9-91 |
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| | 195 | - | DPTPO | - | Single-Axis Pulse Output by Table (*) | - | - | - | - | 13 | 9-101 |
| | 196 | HST | - | ✓ | High Speed Timer | - | - | ✓ | 3 | - | 9-103 |
| | 197 | - | DCLLM | - | Close Loop Position Control (*) | - | - | ✓ | - | 17 | 9-105 |
| | 202 | SCAL | - | ✓ | Proportional Value Calculation | ✓ | ✓ | ✓ | 9 | - | 10-1 |
| | 203 | SCLP | - | ✓ | Parameter Proportional Value Calculation | ✓ | ✓ | ✓ | 9 | - | 10-3 |
| Contact Type Logic Operation | 215 | LD& | DLD& | - | $S_1 \& S_2$ | - | ✓ | ✓ | 5 | 9 | 10-7 |
| | 216 | LD | DLD | - | $S_1 S_2$ | - | ✓ | ✓ | 5 | 9 | 10-7 |
| | 217 | LD^ | DLD^ | - | $S_1 \wedge S_2$ | - | ✓ | ✓ | 5 | 9 | 10-7 |
| | 218 | AND& | DAND& | - | $S_1 \& S_2$ | - | ✓ | ✓ | 5 | 9 | 10-8 |
| | 219 | AND | DAND | - | $S_1 S_2$ | - | ✓ | ✓ | 5 | 9 | 10-8 |
| | 220 | AND^ | DAND^ | - | $S_1 \wedge S_2$ | - | ✓ | ✓ | 5 | 9 | 10-8 |
| | 221 | OR& | DOR& | - | $S_1 \& S_2$ | - | ✓ | ✓ | 5 | 9 | 10-9 |
| | 222 | OR | DOR | - | $S_1 S_2$ | - | ✓ | ✓ | 5 | 9 | 10-9 |
| | 223 | OR^ | DOR^ | - | $S_1 \wedge S_2$ | - | ✓ | ✓ | 5 | 9 | 10-9 |
| Contact Type Comparison Instruction | 224 | LD= | DLD= | - | $S_1 = S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-10 |
| | 225 | LD> | DLD> | - | $S_1 > S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-10 |
| | 226 | LD< | DLD< | - | $S_1 < S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-10 |
| | 228 | LD<> | DLD<> | - | $S_1 \neq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-10 |
| | 229 | LD<= | DLD<= | - | $S_1 \leq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-10 |
| | 230 | LD>= | DLD>= | - | $S_1 \geq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-10 |
| | 232 | AND= | DAND= | - | $S_1 = S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-11 |
| | 233 | AND> | DAND> | - | $S_1 > S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-11 |
| | 234 | AND< | DAND< | - | $S_1 < S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-11 |
| | 236 | AND<> | DAND<> | - | $S_1 \neq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-11 |
| | 237 | AND<= | DAND<= | - | $S_1 \leq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-11 |
| | 238 | AND>= | DAND>= | - | $S_1 \geq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-11 |
| | 240 | OR= | DOR= | - | $S_1 = S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-12 |
| | 241 | OR> | DOR> | - | $S_1 > S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-12 |
| 242 | OR< | DOR< | - | $S_1 < S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-12 | |
| 244 | OR<> | DOR<> | - | $S_1 \neq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-12 | |
| 245 | OR<= | DOR<= | - | $S_1 \leq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-12 | |
| 246 | OR>= | DOR>= | - | $S_1 \geq S_2$ | ✓ | ✓ | ✓ | 5 | 9 | 10-12 | |

Instructions marked with * are available in EH2/SV series MPU.