# iSmart: the intelligent choice for precise control...

# two sizes, three types: ac or dc power

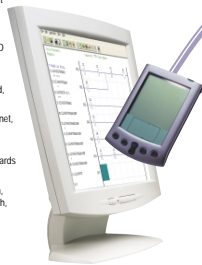Providing the capability of a small plc, iSmart is a flexible, easy to use range of 'intelligent relays'. Base modules come with either 10 or 20 I/O points expandable up to 44 (including four analogue) by adding a maximum of three 4-input, 4-output plug-in expansion modules. A high speed comms option is also available for even greater expandability. Comms module options include Modbus, DeviceNet, Profibus or Ethernet.

With the free software provided, iSmart 'intelligent' relays can be programmed via a PC, PDA (pocket PC) or the integral keypad, using Relay Ladder (LD) or Function Block Diagram (FDB).
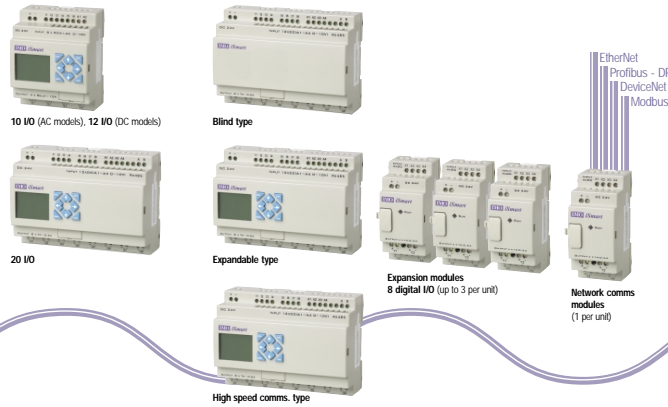
Flexible, easy to use and highly cost-effective, iSmart is ideal for small machine applications including automatic doors, packaging machines, vending machines....

- From 10 to 44 I/O
- Custom high speed processor
- Two options blind or with integral back light display and programmer
- 15 4 line by 12 character messages can be displayed
- 8 Amp output switching capability
- Up to 4 Analogue inputs
- 2 1KHz High speed inputs
- Programmable in either relay ladder or Function Block Diagram (FBD)
- 200 lines relay ladder or 99 Function Blocks
- Easy to use free of Charge programming software offering program simulation for Windows 98, 2000, XP, and Pocket PC
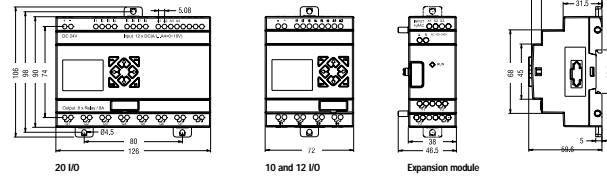- Real Time Clock (RTC)
- 1 Pulse width modulation output (PMW) for position control
- Memory module option
- Communication interface to IMO HMI's or Computer
- High Speed Data Link Modbus enabling remote I/O to be linked, and PC
- Fieldbus communications Ethernet, Profibus DP Slave, DeviceNet, Modbus
- Conforms to international standards CE, UL,and c-UL
- Multilanguage capability English, German, French, Italian, Spanish, Portuguese, and Chinese
- DIN rail mountable

3 YEAR GUARANTEE

®  UL

c UL

CE

**Free programming software for PC or PDA (pocket PC)**

**10 I/O** (AC models), **12 I/O** (DC models)

**Blind type**

EtherNet
Profibus - DP
DeviceNet
Modbus

**20 I/O**

**Expandable type**

**Expansion modules**
8 digital I/O (up to 3 per unit)

**Network comms modules**
(1 per unit)

**High speed comms. type**

## dimensions

5.08

106 98 90 74

Ø4,5

80
126

**20 I/O**

DC 24V

Input 12x DC(4V..max)+16V

Output 8 x Relay / 8A

72

**10 and 12 I/O**

57,3
49,3
31,5

68 45

98
46,5

5

35,4

59,6

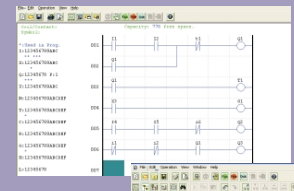**Expansion module**

**Configurator, iSmart's free powerful programming software is available for both PC and PDA (pocket PC) and offers two methods of programming...**
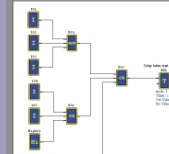
### Relay Ladder (LD)

Up to 200 lines of instructions with 4 instructions per line, giving a total of 800.

### Function Block Diagram (FBD)

Up to a total of 99 blocks can be programmed.

### Powerful diagnostics

Using iSmart Configurator, programmes can be simulated in either LD or FBD modes. Even the keypad and display can be simulated - ideal for proving designs at your desk.

### On line monitoring

iSmart Configurator also provides on line monitoring in both LD or FBD modes for rapid fault recognition and diagnosis.
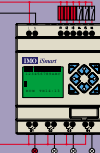
# actual size

**Bright backlit 4 line x 16 character LCD display**

IMO iSmart
R1=SA 09 47
T1=160.1Sec
T1=ON

SMT-ED-R12

OUTPUT 4 X RELAY / 8A

MEMORY

**Integral programming and monitoring keypad**

**Optional programming cable**

**8 Amp relay outputs**

MEMORY

**Flash memory option**

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## ordering codes

### DC iSmart models

| Model No. SMT- | Total I/O | Digital DC | Analogue 0-10VDC | Outputs |
|---|---|---|---|---|
| ED-R12 | 12 | 6 | 2 | 4xRelays |
| BD-R12 | 12 | 6 | 2 | 4xRelays |
| ED-T12 | 12 | 6 | 2 | 4xTrans. |
| ED-R20 | 20 | 8 | 4 | 8xRelays |
| BD-R20 | 20 | 8 | 4 | 8xRelays |
| CD-R20 | 20 | 8 | 4 | 8xRelays |
| CD-T20 | 20 | 8 | 4 | 8xTrans. |

### DC expansion modules

| Model No. SMT- | Total I/O | Digital DC | | Outputs |
|---|---|---|---|---|
| MD-R8 | 8 | 4 | - | 4xRelays |
| MD-T8 | 8 | 4 | - | 4xTrans. |

### AC iSmart models

| Model No. SMT- | Total I/O | Digital AC | Outputs |
|---|---|---|---|
| EA-R10 | 10 | 6 | 4xRelays |
| BA-R10 | 10 | 6 | 4xRelays |
| EA-R20 | 20 | 12 | 8xRelays |
| BA-R20 | 20 | 12 | 8xRelays |
| CA-R20 | 20 | 12 | 8xRelays |

### AC expansion module

| | | | |
|---|---|---|---|
| MA-R8 | 8 | 4 | 4xRelays |

### Accessories

| | |
|---|---|
| SMT-PC03 | Programming cable |
| SMT-PDACable | PDA Programming cable |
| SMT-PM04 | Memory module |
| SMT-Configurator | PC programming software |
| SMT-PDA Configurator | Pocket PC programming software |

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**PANEL**

**MACHINE**

**PROCESS**

**SAFETY**

**DRIVES**

**PCB EMECH**

| | | |
|---|---|---|
| Cam Switches | Drives | Data Acquisition & Control |
| Din Terminals | Intelligent Terminals/HMI | Drives |
| Enclosures | Limit Switches | Intelligent Terminals/HMI |
| Fieldbus remote I/O | Photoelectric Switches | Limit Switches |
| Isolators & Switch Fuses | PLCs | Photoelectric Switches |
| MCB & RCD | Proximity Switches | Proximity Switches |
| Motor Circuit Breakers | Temperature Controls | PLCs |
| Motor Control Gear | | Signal Conditioning |
| Panel Meters | | Temperature Controls |
| Relays | | |
| Signal Conditioning | | |
| Sockets | | |
| Timers | | |
| Transformers & Power Supplies | | |

| | |
|---|---|
| Lightguards | Jaguar VXM 0.37-500kW |
| Safety Limit Switches | Jaguar VXSM 0.37-7.5kW |
| Safety Relays | Jaguar CUB 0.37-4kW |

All IMO products are tried, tested and approved to relevant international quality standards.

ISO 9001 Registered / UKAS

CE UL cUL FM D N S FI RoHS

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## iSmart numbering system

| SMT | - | E | D | - | R | 10 |
|---|---|---|---|---|---|---|

| | |
|---|---|
| Expandable with screen and keys | E |
| Expandable no screen or keys | B |
| Expandable with screen and keys + Comms | C |
| Expansion Module | M |

Number of I/O
Points 10, 12, 20 or
8 for expansion module

| | |
|---|---|
| AC supply 110-240 volt | A |
| 24 volt DC supply | D |
| 12 volt DC supply | D12 |

| | |
|---|---|
| Relay Output | R |
| Transistor Output | T |

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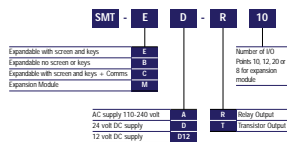
## specification

### Common

| | |
|---|---|
| Programme memory | LD: 200 lines  FBD: 99 blocks |
| LCD display (lines x characters) | 4 x 12 |
| Enclosure type | IP20 |
| Maximum vibration | 1.0G |
| Operating temperature range | 0 to 55°C |
| Storage temperature range) | -40 to 70°C |
| Maximum humidity (relative, non-condensing) | 90% |
| Approvals | UL, cUL, CE |

### DC models

| | |
|---|---|
| Input power voltage range: 12Vdc | 10.2-13.8Vdc |
| Input power voltage range: 24Vdc | 21.6 - 26.4Vdc |
| Output relay contact rating (at 24Vdc, resistive) | 8.3A (B300) |
| Input signal voltage threshold: ON, OFF | >15, <5Vdc |
| Input signal delay time: ON to OFF, OFF to ON | 3.5ms |

### AC models

| | |
|---|---|
| Input power voltage range (50/60Hz) | 85 - 265Vac |
| Output relay contact rating (at 250Vac, resistive) | 8.3A (B300) |
| Input signal voltage threshold: ON, OFF | >79, <40Vac |
| Input signal delay time: ON to OFF, OFF to ON | 50-90*, 50-90*ms (240/120V) |

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# iSmart

## Intelligent relays

IMO

DC 24V

PROCESS

Audible devices
Chip-on-Board
Device programmers
PCB Terminal blocks
Relays - automotive
Relays - power
Relays - signal
Switches