PS5R Slim Line Power Supplies

IDEC PS5R Slim Line power supplies have all the features, all the power, and only half the size of traditional power supplies. Save valuable DIN Rail space with the 30W, 60W, 90W, 120W, or 240W models which can fit any of your power needs. The PS5R Slim Line models are UL508 and UL1604 listed for hazardous locations. The 30W and 60W models are also NEC Class 2 rated. The 120W and 240W models comply with SEMI F47 sup immunity requirements.

SA1E Sensors

Choose your sensing method, operation mode, control output and connection method with the simple and affordable SA1E sensors, and get exactly what you need in a very small package. There are 32 models available, all rated IP67 for water resistance, with a response time of 1 msec (maximum). Special interference prevention allows close mounting of two sensors (except for through-beam type), and the quick-connect and disconnect option make installation a breeze.

HW Switches

In basic black or stylish metal, the HW series of 22mm switches from IDEC are available in several styles to dress up any panel. HW pushbuttons and pilot devices are internationally-rated, designed for use almost anywhere in the world, and have removable contact blocks, finger-safe terminals, and tamperproof construction. Choose simple black plastic bezels for clean uniformity or chrome-plated metallic bezels for a rugged industrial look.
Look around you. IDEC SmartRelays are everywhere! You can find them in lighting controls, ice-making machines, grocery store mist systems and more. And there’s a good reason: IDEC SmartRelays meet all safety requirements, while at the same time saving you time and money.

Now our new fourth-generation SmartRelays include new advanced features that offer even more versatility and functions! With new features including: an analog output module, 3 new function block types, upgraded software and available expansion modules, you can get everything you need from one compact module.

When you need a product you can rely on, is easy to use, and meets safety standards, look no further than IDEC. Our SmartRelays meet all industry standard approvals including cULus, CE, C-tick and ABS (American Bureau of Shipping). Plus they are FM approved for Class 1 Div 2 hazardous locations. The bottom line is IDEC SmartRelays provide the right solution for all your control needs!

Industrial Facility Systems
- Conveyor systems
- Elevator controls
- Liquid level controls
- Motor, pump and valve controls
- Water treatment and irrigation systems

Housing and Building Management
- Lighting controls
- HVAC
- Gate and door controls
- Shutter and sun blind controls
- Water and sprinkler systems

Unique Solutions
- Solar-electric systems
- Traffic light controls
- Ventilation systems on ships
- Extreme environmental conditions

Monitoring Systems
- Access controls
- Alarm systems
- Parking lot control monitoring

The possibilities are endless

www.idec.com/smartrelay

Smart Control - IDEC SmartRelay

Your logic circuit can be accomplished ... by just installing this unit.

Why spend all that time wiring when it’s as simple as 1, 2, 3?

1. Select “Program” from the main menu.
2. Create your control logic.
3. Select “Start,” and you’re done.

Your time is valuable and with that in mind, IDEC has created a product that will require very little of it. Using a system smaller than a PLC, with minimal wiring, mounting as simple as a quick snap on to a DIN rail, and programming as easy as one touch of a button, the user-friendly SmartRelay is the perfect solution.

Why wait? Replace your complicated system of relays, timers and counters with just one IDEC SmartRelay! It’s safe to say we all want to reduce workloads while saving money, and with IDEC SmartRelays it’s easy. These all-in-one controllers require less space in your control cabinet. And as you know, space in your panel is money in your pocket. Combine that with low maintenance and you’ve got a cost-effective product you can count on for all your control operations!
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www.idec.com/smartrelay
Digital/Analog Inputs

Each SmartRelay is equipped with 8 digital inputs for you to utilize in your applications. On selected models such as FL1D-H12RCE, FL1D-B12RCE and FL1D-H12SND, inputs 5 and 6 can be used as fast inputs up to 2 kHz and inputs 7 and 8 can be configured as 0-10V analog inputs. A maximum of 24 digital inputs can be utilized with this system using digital expansion modules.

Operational Control Buttons

IDEC SmartRelays can be programmed with just the push of a button! Control buttons can be used to program, modify and change preset parameters. The four cursor keys can also be configured as inputs if needed.

Digital Outputs

IDEC SmartRelays are equipped with 4 relay outputs rated at 10A/pt. A maximum of 16 outputs can be configured with this system using digital expansion modules.

EEPROM memory

Never worry about your program being lost again! With IDEC SmartRelays, your program is stored in a non-volatile EEPROM.

Password Protection

Concerned about your program being copied or altered? IDEC SmartRelays keep you safe with a unique password protection scheme allowing end users to access certain parameters without seeing or modifying the actual program.

Large Program Capacity

Running out of program space is a thing of the past. IDEC SmartRelays can handle up to 130 function blocks (2000 bytes).

Integrated Functions

8 predefined basic function blocks and 28 special function blocks ensure that almost all your conventional switching devices — timers and counters — can be replaced. Three court functions include a PI controller (e.g. for temperature control), a two-stage ramp function (e.g. for the control of frequency converters) and an analog multiplexer (e.g. for light control). See page 9.

Universal Voltages

SmartRelays are available in 12/24VDC, 24VAC/DC, and 100-240VAC/DC voltages.

Backlit LCD Display

System status — input, output, analog values, timers and counters — can be monitored through an embedded 4x12 LCD on your SmartRelay. This allows you to display a predefined message with up to 48 characters chosen from 103 special character types. You can now adjust the contrast on your display screen to your preference. Non-LCD versions are also available.

DIN Rail or Surface Mountable

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Expansion Modules

Just snap-on and go! No cable required. Each digital expansion module has 4 inputs and 4 outputs available in 12/24VDC, 24VAC/DC and 100-240VAC/DC. Up to 4 expansion modules can be mounted on an IDEC SmartRelay base module. Plus SmartRelay also has the capability to communicate within a LinWires® network and AS-interface system with its LinWires and AS-interface modules.

Analog Inputs & Outputs

Using the 2-pt analog input and 2-pt analog output expansion modules allows you to easily control and process your analog signal. IDEC SmartRelays can control and process 0-10V and 4-20mA signals with a 10-bit resolution. Up to 4 analog input and 1 analog output modules can be attached to the base module.
New

Control at the push of a button

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Quality
IDEC means quality and dependability you can trust and our SmartRelays are no exception. Each model is cULus listed, CE certified, EMC compliant, FM approved for Class 1 Div 2 hazardous locations, C-tick compliant, Lloyd’s Registered, and ABS approved.

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WindLGC 5.0 Software

WindLGC is the exclusive programming software for the IDEC SmartRelay using Windows®.

**Simplicity**
Create, simulate, test and save your program in just a matter of seconds using drag and drop functions.

**Control**
Choose either function block or ladder programming, but keep in mind that you can always convert from one to the other with just the click of an icon. Offline program simulation (without the need for an actual unit) enables testing of the entire program from a PC, or you can test and monitor your IDEC SmartRelay online.

**Documentation**
You can create and save your WindLGC program as a .pdf or .jpg file. Professional documentation is included with all necessary configuration information such as comments and program settings.

**On the Web**
Visit IDEC at www.idec.com/smartrelay for additional information on software upgrades, demo software, FAQs, manuals or brochures.

Program Comparison

Basic Function Blocks

- **OR** Parallel connection of normally open contacts
- **NOR** Series connection of normally closed contacts
- **NAND** Parallel connection of normally closed contacts
- **NAND (Edge)** Edge detection with edge evaluation (neg. edge)
- **AND** Series connection of normally open contacts
- **AND (Edge)** Edge detection with edge evaluation (pos. edge)
- **XOR** Double changeover contact
- **NOT** Connection of closed contact

Special Function Blocks

<table>
<thead>
<tr>
<th>ON Delay</th>
<th>OFF Delay</th>
<th>ON/OFF Delay</th>
<th>Retentive ON Delay</th>
<th>Interval Time-Delay Relay/Pulse Output</th>
<th>Current Impulse Relay</th>
<th>Edge-Triggered Interval Time-Delay Relay</th>
<th>Latching Relay</th>
<th>Seven-Day Time Switch</th>
<th>Twelve-Month Time Switch</th>
<th>Up/Down Counter</th>
<th>Analog Differential Trigger</th>
<th>Analog Value Monitoring</th>
<th>Operating Hours Counter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tg Q</td>
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www.idec.com/smartrelay

Create, test and save your program in seconds

Loaded with functions!
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<table>
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<tr>
<th>Function</th>
<th>Symbol</th>
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<tbody>
<tr>
<td>ON Delay</td>
<td>![ON Delay Symbol]</td>
</tr>
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**Simulation Mode/Online Monitor**

Ladder Programming

Program Comparison

---

**Loaded with functions!**
Modules that expand the possibilities

FL1D Base Modules – With LCD

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Voltage</th>
<th>Input Signal</th>
<th>Input Type</th>
<th>Output Type</th>
<th>With Clock</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL1D-B12RCE</td>
<td>12/24V DC</td>
<td>DC</td>
<td>PNP</td>
<td>Relay Output</td>
<td>Yes</td>
</tr>
<tr>
<td>FL1D-B12RCA</td>
<td>24V DC</td>
<td>AC/DC</td>
<td>PNP/NNP</td>
<td>Relay Output</td>
<td>Yes</td>
</tr>
<tr>
<td>FL1D-B12RCC</td>
<td>100-240V AC/DC</td>
<td>AC/DC</td>
<td>PNP</td>
<td>Relay Output</td>
<td>Yes</td>
</tr>
</tbody>
</table>

FL1D Base Modules – Without LCD

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<tr>
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<td>12/24V DC</td>
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<td>Relay Output</td>
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Special Function Blocks (Cont.)

Asynchronous Pulse Generator
Random Generator
Frequency Trigger
Analog Trigger
Analog Comparator
Stairwell Light Switch
Dual-Function Switch
Message Text
Softkey
Analog Amplifier
Shift Register
PI Controller
Analog Ramp Control
Analog Multiplexer

LowWONks® Communication Module
- LowWONks® Communication module contains standard network variable type (SNVT) to achieve open network communication for building automation
- Maximum virtual I/O points: 16/12 points
- An external interface file (XIF extension) unique to each LowWONks® module is needed to communicate through the LowWONks® network and can be downloaded at www.idec.com/smartrelay
- See page 11 for more details

Part Number | Module          | Input Power | Total I/O |
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FL1B-C1C12</td>
<td>LowWONks® Module</td>
<td>24V AC/DC</td>
<td>Analog I/O, 8 points</td>
</tr>
<tr>
<td>FL1B-CAS2</td>
<td>AS-Interface Communication Module</td>
<td>30V DC</td>
<td>Input: 4 points, Output: 4 points</td>
</tr>
<tr>
<td>FL1B-M682R2</td>
<td>Combination I/O Module</td>
<td>12/24V DC</td>
<td>DC input, Relay output, 8 I/O</td>
</tr>
<tr>
<td>FL1B-M681S2</td>
<td>Analog Input Module</td>
<td>24V DC</td>
<td>DC input, Relay Output, 8 I/O</td>
</tr>
<tr>
<td>FL1B-M682F2</td>
<td>Analog Input Module</td>
<td>100-240V AC/DC</td>
<td>AC/DC input, Relay Output, 8 I/O</td>
</tr>
<tr>
<td>FL1B-J83S2</td>
<td>Analog Output Module</td>
<td>24V DC</td>
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</tr>
</tbody>
</table>

I/O Expansion Modules

Part Number | Module          | Input Power | Total I/O |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>FL1B-M08B2R2</td>
<td>Combination I/O Module</td>
<td>12/24V DC</td>
<td>DC input, Relay output, 8 I/O</td>
</tr>
<tr>
<td>FL1D-M08B2RCA</td>
<td>Analog Input Module</td>
<td>100-240V AC/DC</td>
<td>AC/DC input, Relay Output, 8 I/O</td>
</tr>
<tr>
<td>FL1D-M08B2RCC</td>
<td>Analog Input Module</td>
<td>100-240V AC/DC</td>
<td>PNP, Relay Output, 8 I/O</td>
</tr>
</tbody>
</table>

AS-Interface Communication Module
- The AS-Interface communication module provides optimum solutions for decentralized controls and savings in installation space and wiring
- Virtual I/O points: 4 inputs, 4 outputs
- See page 11 for more details
Special Function Blocks (Cont.)

**Modules that expand the possibilities**

**LowWorx® Communication Module**
- LowWorx® Communication module contains standard network variable type (SNVT) to achieve open network communication for building automation
- Maximum virtual inputs/analog inputs/outputs: 16/8/12 points
- An external interface file (XIF extension) unique to each LowWorx® module is needed to communicate through the LowWorx® network and can be downloaded at www.idec.com/smartrelay
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<tr>
<td>FL1B-CL1C12</td>
<td>LowWorx® Communication Module</td>
<td>24V AC/DC</td>
<td>Analog Input</td>
<td>8 points</td>
<td>Analog Output</td>
<td>16 points</td>
</tr>
<tr>
<td>FL1B-CAS2</td>
<td>AS-Interface Communication Module</td>
<td>30V DC</td>
<td>Input: 4 points</td>
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**LONWORKS® Communication Module**
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- An external interface file (XIF extension) unique to each LowWorx® module is needed to communicate through the LowWorx® network and can be downloaded at www.idec.com/smartrelay
- See page 11 for more details

**AS-Interface Communication Module**
- The AS-Interface communication module provides optimum solutions for decentralized controls and savings in installation space and wiring
- Virtual I/O points: 4 inputs, 4 outputs
- See page 11 for more details

**I/O Expansion Modules**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Module</th>
<th>Input Power</th>
<th>Input Type</th>
<th>Output Power</th>
<th>Output Type</th>
<th>Total I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL1B-CL1C12</td>
<td>LowWorx® Communication Module</td>
<td>24V AC/DC</td>
<td>Analog Input</td>
<td>8 points</td>
<td>Analog Output</td>
<td>16 points</td>
</tr>
<tr>
<td>FL1B-CAS2</td>
<td>AS-Interface Communication Module</td>
<td>30V DC</td>
<td>Input: 4 points</td>
<td>Output: 4 outputs</td>
<td>8 points</td>
<td></td>
</tr>
</tbody>
</table>
Starter Kit

IDEC SmartRelay Starter Kit is an economical and ideal solution for first time IDEC SmartRelay users.

- Package includes a base module, WindLGC programming software, programming cable, simulator switch (DC models only) and a user’s manual.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMARTSTART-BAC-D</td>
<td>FL1D-B12RCC, WindLGC software and programming cable</td>
</tr>
<tr>
<td>SMARTSTART-BOC-D</td>
<td>FL1D-B12RCC, WindLGC software, programming cable, and simulator switch</td>
</tr>
<tr>
<td>SMARTSTART-HAC-D</td>
<td>FL1D-H12RCC, WindLGC software, programming cable, and simulator switch</td>
</tr>
</tbody>
</table>

Module Combination and Allocation Numbers

Using expansion I/O modules

<table>
<thead>
<tr>
<th>Base module</th>
<th>FL1B-H12RCC</th>
<th>FL1B-HM12RCC</th>
<th>FL1B-CAS2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog input</td>
<td>FL1B-J2B2</td>
<td>FL1B-J2B2</td>
<td>FL1B-J2B2</td>
</tr>
<tr>
<td>Combination I/O module</td>
<td>FL1B-J2B2</td>
<td>FL1B-J2B2</td>
<td>FL1B-J2B2</td>
</tr>
<tr>
<td>Analog interface communication module</td>
<td>FL1B-J2B2</td>
<td>FL1B-J2B2</td>
<td>FL1B-J2B2</td>
</tr>
</tbody>
</table>

The AS-Interface communication module provides the optimum solution for savings in cables, installation space, and wiring costs, and offers the possibility of decentralized control.

The AS-Interface communication module, in combination with ONWORKS communication module, achieves remote control and monitoring on a ONWORKS network.

<table>
<thead>
<tr>
<th>Module Combination and Allocation Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maximum number of I/O points when using LonWorks communication module</td>
</tr>
<tr>
<td>FL1B-H12RCC</td>
</tr>
<tr>
<td>Analog input</td>
</tr>
<tr>
<td>Base module</td>
</tr>
</tbody>
</table>

| Note 1: One LonWorks communication module can be used with any base module and must be mounted at the right-most position of the row. |
| Note 2: I/O numbers are automatically allocated starting with the base module. |
| Note 3: When the base module with analog inputs is used, I1 to I8, A1, and A2 are occupied whether the analog inputs are used or not. |

LonMark, LONWORKS, LON, LonBuilder, Neuron, 3120, 3150, and Echelon are registered trademarks of Echelon USA.
Starter Kit

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- Package includes a base module, WindLGC software, programming cable, simulator switch (DC models only) and a user’s manual

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</tr>
<tr>
<td>SMARTSTART-BAD-D</td>
<td>FL1D-B12RCE, WindLGC software, programming cable, and simulator switch</td>
</tr>
<tr>
<td>SMARTSTART-BAD-D</td>
<td>FL1D-H12RCC, WindLGC software and programming cable</td>
</tr>
<tr>
<td>SMARTSTART-BAD-D</td>
<td>FL1D-H12RCE, WindLGC software, programming cable, and simulator switch</td>
</tr>
</tbody>
</table>

**Accessories**

- Memory Cartridge
- Simulator Switch
- Programming Cable

**Base Module Dimensions**

All dimensions in mm. Detailed CAD drawings are available on our website at: www.idec.com/smartrelay.

**I/O Expansion Module Dimensions**

1. Maximum number of I/O points when using LonWorks communication module

<table>
<thead>
<tr>
<th>Module Combination and Allocation Numbers</th>
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</thead>
<tbody>
<tr>
<td><strong>FL1B-H12RCC</strong></td>
</tr>
<tr>
<td><strong>FL1B-CLIC12</strong></td>
</tr>
</tbody>
</table>

2. Using analog inputs on the base module

<table>
<thead>
<tr>
<th>Module Combination and Allocation Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FL1B-H12RCE</strong></td>
</tr>
<tr>
<td><strong>FL1B-CLIC12</strong></td>
</tr>
</tbody>
</table>

3. Using I/O expansion module

<table>
<thead>
<tr>
<th>Module Combination and Allocation Numbers</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td><strong>FL1B-CLIC12</strong></td>
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Note 1: One LonWorks communication module can be used with a base module and must be mounted at the right-most position of the row.

Note 2: I/O numbers are automatically allocated starting with the base module.

Note 3: When the base module with analog inputs is used, I1 to I8, Al1, and Al2 are occupied whether the analog inputs are used or not.
PS5R Slim Line Power Supplies

IDEC PS5R Slim Line power supplies have all the features, all the power, and only half the size of traditional power supplies. Save valuable DIN Rail space with the 30W, 60W, 90W, 120W, or 240W models which can fit any of your power needs. The PS5R Slim Line models are UL508 and UL1604 listed for hazardous locations. The 20W and 60W models are also NEC Class 2 rated. The 120W and 240W models comply with SEMI F47 suj immunity requirements.

SA1E Sensors

Choose your sensing method, operation mode, control output and connection method with the simple and affordable SA1E sensors, and get exactly what you need in a very small package. There are 32 models available, all rated IP67 for water resistance, with a response time of 1 msec (maximum). Special interference prevention allows close mounting of two sensors (except for through-beam type), and the quick connect and disconnect option make installation a breeze.

HW Switches

In basic black or stylish metal, the HW series of 22mm switches from IDEC are available in several styles to dress up any panel. HW pushbuttons and pilot devices are internationally-rated, designed for use almost anywhere in the world, and have removable contact blocks, finger-safe terminals, and tamperproof construction. Choose simple black plastic bezels for clean uniformity or chrome-plated metallic bezels for a rugged industrial look.

Support Information

IDEC SmartRelay
www.idec.com/smartrelay

Technical support: support@idec.com
800-262-IDE
www.idec.com

www.idec.com

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Catalog No. FL9Y-B100-0

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