



# I-87041W | I-87041PW

32-ch Sink-type Open Collector Isolated Digital Output Module

32-ch Sink-type Open Collector Isolated Digital Output Module with Self Protection

## Features

- 32-channel Open Collector Output
- Sink-type Digital Output
- Short circuit, Overvoltage and Overload Protection for I-87041PW
- 4 kV ESD Protection
- 3750 Vrms Intra-module Isolation, Field-to-Logic
- Dual Watchdog
- Configurable Power-on Value and Safe Value
- Open Daughter Board Detection

## Introduction

The I-87041W/I-87041PW module off ers 32 Digital Output channels, each of which features Photocouple isolation and supports sink-type output using an open collector. The I-87041W/I-87041PW includes 32 LED indicators that can be used to monitor the status of the Digital Output channels, and options are available for confi guring both power-on and safe values. 4 kV ESD protection and 3750 Vrms intra-module isolation is provided as standard. The I-87041W/I-87041PW can be paired with a daughterboard, such as the DN-37-381-A for easy wiring or the DN-8K32R for relay output.

The I-87041PW integrates over-current, over-voltage and short-circuit functionality. ICP DAS recommends selecting either the "PW" versionof the digital output module for industrial use.



I-87041W, I-87041PW with DN-37-381-A and DB37 Male to Female Cable (Optional)



I-87041W, I-87041PW with DN-8K32R and DB37 Male to Female Cable (Optional)

## System Specifications

| Model | I-87041W | I-87041PW |
|---|---|---|
| **COM Ports** | | |
| Interface | RS-485 | |
| Data Format | N, 8, 1 | |
| Baud Rate | 1200 ~ 115200 bps | |
| Protocol | DCON | |
| Dual Watchdog | Yes, Module (1.6 Seconds), Communication (Programmable) | |
| **LED Indicators/Display** | | |
| System LED Indictors | 1 as Power/Communication Indicator | |
| I/O LED Indicators | 32 as Digital Output Indicators | |
| **Isolation** | | |
| Intra-module Isolation, Field-to-Logic | 3750 Vrms | |
| **EMS Protection** | | |
| ESD (IEC 61000-4-2) | ±4 kV Contact for each Terminal | ±8 kV Contact for each Terminal |
| | ±8 kV Contact for Random Point | ±16 kV Contact for Random Point |
| **Power** | | |
| Power Consumption | 1.7 W Max. | |
| **Mechanical** | | |
| Dimensions (W × L × H) | 30 mm × 115 mm × 85 mm | |
| **Environment** | | |
| Operating Temperature | -25 ~ +75 °C | |
| Storage Temperature | -40 ~ +85 °C | |
| Humidity | 10 ~ 95 % RH, Non-condensing | |

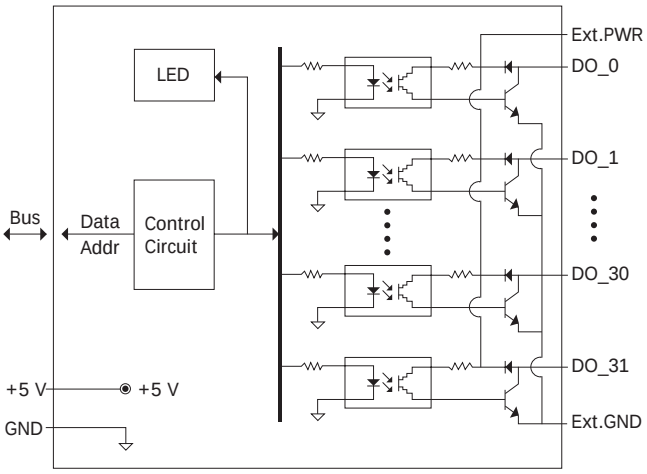
## I/O Specifications

| Model | I-87041W | I-87041PW |
|---|---|---|
| **Digital Output** | | |
| Channels | 32 | |
| Type | Open Collector | |
| Sink/Source (NPN/PNP) | Sink | |
| Load Voltage | +5 ~ +30 VDC | +5 ~ +50 VDC |
| Max. Load Current | 100 mA/Channel | 200 mA/Channel |
| Overvoltage Protection | - | 60 VDC |
| Overload Protection | - | 1.1 A |
| Short-circuit Protection | - | Yes |
| Power-on Value | Yes | |
| Safe Value | Yes | |

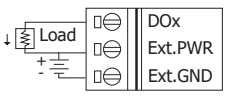
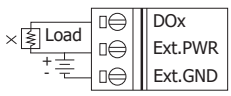
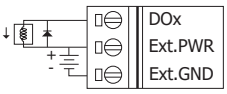
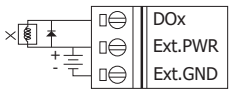


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## Internal I/O Structure

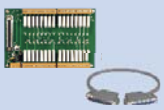



## Wire Connections

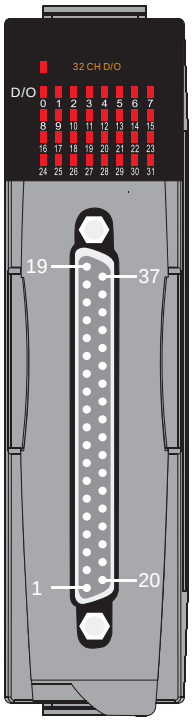
| Output Type | ON State Readback as 1 | OFF State Readback as 0 |
|---|---|---|
| Resistance Load |  |  |
| Inductive Load |  |  |



## Accessories

| | |
|---|---|
|  DN-8K32R CR | 32-channel Relay (Form A, 3A) Output Board (Pitch = 3.81 mm) with DIN-rail Mounting (RoHS) Include : CA-3705A (DB37 Male-Female, 0.5M) |
|  DN-37-A CR | Female DB37 to Screw Terminal Board (Pitch = 5.08 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male-Female, 90º, 1M) |
|  DN-37-381-A CR | Female DB37 to Screw Terminal Board (Pitch = 3.81 mm) with DIN-rail Mounting (RoHS) Include: CA-3710A (DB37 Male-Female, 90º, 1M) |
|  CA-3705A CR | DB37 Male-Female Cable, 90º, 0.5 m (RoHS) |
|  CA-3710A CR | DB37 Male-Female Cable, 90º, 1.0 m (RoHS) |
|  CA-3715A CR | DB37 Male-Female Cable, 90º, 1.5 m (RoHS) |
|  SG-770 CR | 7/14 channel Surge Protector (RoHS) |

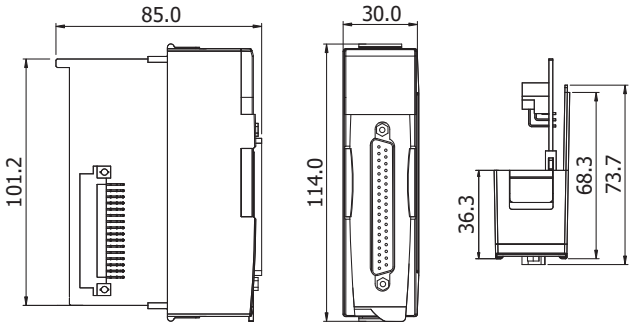
## Pin Assignments




| Pin Assignment | Terminal No. | Pin Assignment |
|---|---|---|
| Ext.PWR | 19 | 37 Ext.PWR |
| Ext.GND | 18 | 36 Ext.GND |
| Ext.GND | 17 | 35 DO_31 |
| DO_15 | 16 | 34 DO_30 |
| DO_14 | 15 | 33 DO_29 |
| DO_13 | 14 | 32 DO_28 |
| DO_12 | 13 | 31 DO_27 |
| DO_11 | 12 | 30 DO_26 |
| DO_10 | 11 | 29 DO_25 |
| DO_9 | 10 | 28 DO_24 |
| DO_8 | 09 | 27 DO_23 |
| DO_7 | 08 | 26 DO_22 |
| DO_6 | 07 | 25 DO_21 |
| DO_5 | 06 | 24 DO_20 |
| DO_4 | 05 | 23 DO_19 |
| DO_3 | 04 | 22 DO_18 |
| DO_2 | 03 | 21 DO_17 |
| DO_1 | 02 | 20 DO_16 |
| DO_0 | 01 | |

37-pin Male D-Sub Connector

## Dimensions (Units: mm)




Left View | Front View | Top View

## Ordering Information

| | |
|---|---|
| **I-87041W-G CR** | 32-channel Sink-type Open Collector Isolated Digital Output Module using the DCON Protocol (RoHS) |
| **I-87041PW-G CR** | 32-channel Sink-type Open Collector Isolated Self Protected Digital Output Module usingthe DCON Protocol (RoHS) |



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