

IACM/OACM IDCM/ODCM

Slim Line Input/Output Modules

File E81606 & E29244

File LR38595M77

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

Features

- Slim line .4" (10.16mm) thick package.
- Foot print same as .6" (15.24mm) thick package.
- 4,000V rms optical isolation.
- Color coded by function.
- High immunity to false operation.
- Series compatible.
- Output modules can be controlled from sinking or sourcing logic.
- Compatible with 2IOM series mounting boards.

Engineering Data (all I/O modules)

Switch Form: 1 Form A (SPST-NO)

Duty: Continuous.

Capacitance: 8 pF Typical (input to output).

Operating Temperature: -30°C to +80°C.

Storage Temperature: -40°C to +85°C.

Potting Compound Flammability: UL94V-0.

Solderability: 260°C for 5 seconds, maximum.

Approximate Weight: .87 oz. (22.1g).

Ordering Information

Typical Part Number ►

OACM -5 H

1. Basic Series:

IACM = Slim line AC input module — yellow case
IDCM = Slim line DC input module — white case
OACM = Slim line AC output module — black case
ODCM = Slim line DC output module — red case

2. Input or Logic Voltage:

5 = 5VDC
15 = 15VDC
24 = 24VDC
U = OACM & ODCM Types 3-15VDC input voltage

3. Options:

Blank = IACM Type — 120VAC/VDC input (90-140VAC/VDC) * * <None>
IDCM Type — 3.3-32VDC input * *
OACM Type — 3A, 24-280VAC, zero voltage turn-on output
ODCM Type — 3A, 3-60VDC output

A = IACM Type — 240VAC/VDC input (180-280VAC/VDC) * *
IDCM Type — 10-60VDC input * *
OACM Type — 3A, 24-280VAC
ODCM Type — 1A, 5-250VDC output

E = IACM Type — 18-36VAC/VDC input * *
F = IDCM Type — 4-32VDC input & fast turn-on & turn-off times * *
H = OACM Type — 5A, 24-280VAC, zero voltage turn-on output

* * Is not polarity sensitive.

Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.

IACM-5	OACM-5H
IACM-5A	OACM-U
IDCM-5	OACM-UH
OACM-5	ODCM-5

IACM

AC Input Modules

Input Specifications

Parameter	Conditions	Units	IACM-5 IACM-15 IACM-24			IACM-5A IACM-15A IACM-24A			IACM-5E IACM-15E IACM-24E		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Control Voltage Range V_{IN}		VAC/VDC	90	120	140	180	240	280	18	24	36
Must Operate Voltage $V_{IN(OP)}$		VAC/VDC	90			180			18		
Must Release Voltage $V_{IN(REL)}$		VAC/VDC	20			20			3		
Max. Input Current	@ $V_{IN} = \text{Max.}$	mA	6			6			18		
Input Resistance R_{IN}		Ohms	28K			75K			2K		

Output Specifications (@ +25°C unless otherwise specified)

Parameter	Conditions	Units	IACM-5 IACM-5A IACM-5E			IACM-15 IACM-15A IACM-15E			IACM-24 IACM-24A IACM-24E		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Maximum Output Voltage		VDC	30			30			30		
Maximum Output Current I_{SINK}		mADC	50			50			50		
Maximum Output Leakage Current	$V_{OUT} = \text{Max.}$	μADC	10			10			10		
Maximum Output Voltage Drop	$I_{SINK} = 50\text{mA}$	VDC	.2			.2			.2		
Logic Supply Voltage V_{CC}		VDC	3	5	6	12	15	18	20	24	30
Maximum Logic Supply Current	$V_{CC} = \text{Max.}$	mADC	18			18			18		
Turn-On Time (Nominal)	$I_{SINK} = 25\text{mA}$	ms	20			20			20		
Turn-Off Time (Nominal)	$I_{SINK} = 25\text{mA}$	ms	30			30			30		
Output Type (Open Collector)			Normally Open (Sinking)			Normally Open (Sinking)			Normally Open (Sinking)		

OACM

AC Output Modules

Input Specifications

Parameter	Conditions	Units	OACM-5 OACM-5H OACM-5R			OACM-15 OACM-15H OACM-15R			OACM-24 OACM-24H OACM-24R			OACM-U OACM-UH OACM-UH		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Control Voltage Range V_{IN}		VDC	3	5	8	9	15	18	18	24	32	3	5	15
Must Operate Voltage $V_{IN(OP)}$		VDC	3			9			18			3		
Must Release Voltage $V_{IN(REL)}$		VDC	1			1			1			1		
Input Current	@ $V_{IN} = \text{Nominal}$	mADC	20			16			13			44		
Input Resistance R_{IN}		Ohms	220			1000			2000			360		

PIN-3 must be positive with respect to PIN-4 for correct operation.

Output Specifications (47 to 63 Hz., @ +25°C unless otherwise specified)

Parameter	Conditions	Units	OACM-5 OACM-15 OACM-24 OACM-U			OACM-5H IAC-15H OAC-24H OACM-UH			OACM-5R OACM-15R OACM-24R OACM-UR		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Load Voltage V_L		V rms	24	120/240	280	24	120/240	280	24	120/240	280
Repetitive Blocking Voltage		V peak	± 600			± 600			± 600		
Load Current I_L^*		A rms	.05	3		.05	5		.05	5	
Output Current		$\text{mA}/^\circ\text{C}$	58 $\text{mA}/^\circ\text{C}$			66 $\text{mA}/^\circ\text{C}$			66 $\text{mA}/^\circ\text{C}$		
Derating			40°C - 80°C			30°C - 80°C			30°C - 80°C		
Single Cycle Surge Current		A peak	100			250			250		
Leakage Current (Off-State)	$V_L = 120\text{VAC}$	mA rms	1			1			1		
	$V_L = 240\text{VAC}$	mA rms	2			2			2		
On-State Voltage Drop	$I_L = \text{Max.}$	V peak	1.6			1.6			1.6		
Static dv.dt (Off-State)		V/ μs	200			200			200		
Turn-On Time	@ f=60 Hz.	ms	8.3			8.3			.1		
Turn-Off Time		ms	8.3			8.3			8.3		
H/P/ Rating	@ 240VAC	HP	1/4			1/2			1/2		

IDCM

DC Input Modules

Input Specifications

Parameter	Conditions	Units	IDCM-5 IDCM-15 IDCM-24			IDCM-5A IDCM-15A IDCM-24A			IDCM-5F IDCM-15F IDCM-24F		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Control Voltage Range V_{IN}		VDC	±3.3	±24	±32	±10		±60	±4		±32
Must Operate Voltage $V_{IN(OP)}$		VDC			±3.3			±10			±4
Must Release Voltage $V_{IN(REL)}$		VDC	±2			±3			±1		
Maximum Input Current	@ V_{IN} =Max.	mA		34			34			68	
Input Resistance R_{IN}		Ohms		1000			2000			500	

Output Specifications (@ +25°C unless otherwise specified)

Parameter	Conditions	Units	IDCM-5 IDCM-5A			IDCM-15 IDCM-15A			IDCM-24 IDCM-24A			IDCM-5F			IDCM-15F			IDCM-24 IDCM-24F		
			Min	Typ	Max															
Maximum Output Voltage		VDC			30			30			30			30			30			30
Maximum Output Current		mADC			50			50			50			50			50			50
Maximum Output Leakage Current	V_{OUT} =Max.	µADC			10			10			10			10			10			10
Maximum Output Voltage Drop	I_{SINK} =50mA	VDC			.2			.2			.2			.2			.2			.2
Logic Supply Voltage V_{CC}		VDC	3	5	6	12	15	18	20	24	30	3	5	6	12	15	18	20	24	30
Logic Supply Current	V_{CC} =Max.	mADC			18			18			18			18			18			18
Turn-On Time (Nominal)	I_{SINK} =25mA	ms		1*			1*			1*			.05		.05		.05		.05	
Turn-Off Time (Nominal)	I_{SINK} =25mA	ms		1*			1*			1*			.10		.10		.10		.10	
Output Type (Open Collector)			Normally Open (SINKING)			Normally Open (SINKING)			Normally Open (SINKING)			Normally Open (SINKING)			Normally Open (SINKING)			Normally Open (SINKING)		

* Nominal Turn-On and Turn-Off times for IDCM5A, IDCM15A & IDCM24A are 5 ms.

ODCM

DC Output Modules

Input Specifications

Parameter	Conditions	Units	ODCM-5 ODCM-5A			ODCM-15 ODCM-15A			ODCM-24 ODCM-24A			ODCM-U ODCM-UA		
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Control Voltage Range V_{IN}		VDC	3	5	8	9	15	18	18	24	32	3	5	15
Must Operate Voltage $V_{IN(OP)}$		VDC			3			9			18			3
Must Release Voltage $V_{IN(REL)}$		VDC	1			1			1			1		
Maximum Input Current	@ V_{IN} =Nominal	mADC			18			16			13			44
Input Resistance R_{IN}		Ohms			250			1000			2000			360

PIN-3 must be positive with respect to PIN-4 for correct operation.

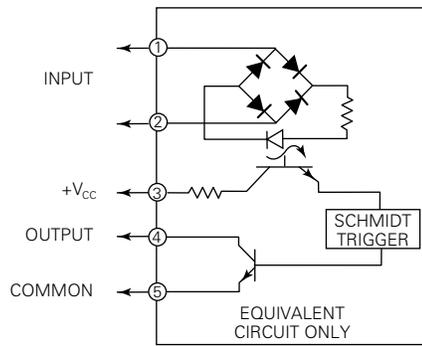
Output Specifications (@ +25°C unless otherwise specified)

Parameter	Conditions	Units	ODCM-5 ODCM-15 ODCM-24 ODCM-U			ODCM-5A ODCM-15A ODCM-24A ODCM-UA		
			Min.	Typ.	Max.	Min.	Typ.	Max.
Load Voltage V_L		VDC			3			3
Load Current I_L *		ADC			.01			.01
Maximum Surge Current for 1 Second		ADC						5
Maximum Leakage Current (Off-State)	V_L =MAX	µADC						500
Maximum On-State Voltage Drop	I_L =MAX	VDC						1.5
Maximum Turn-On Time		ms						.1
Maximum Turn-Off Time		ms						.75

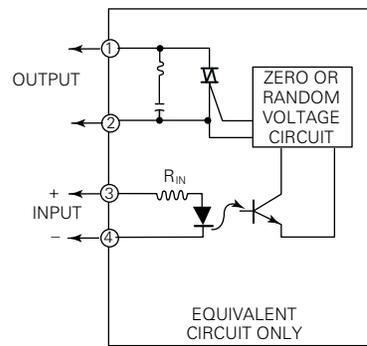
* Above 40°C, derate by 50mA/°C to 80°C.

PIN-1 must be positive with respect to PIN-2 for correct operation.

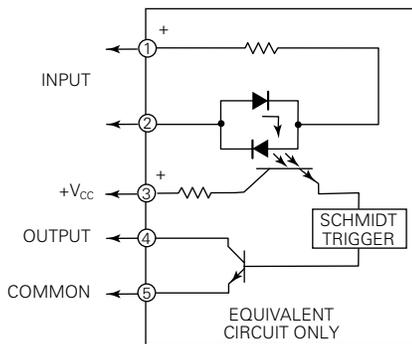
IACM Operating Diagram



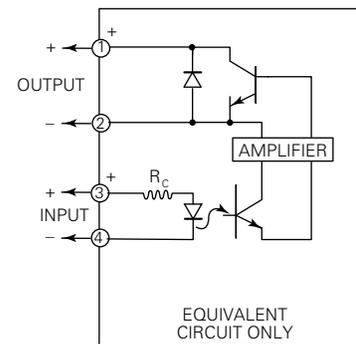
OACM Operating Diagram



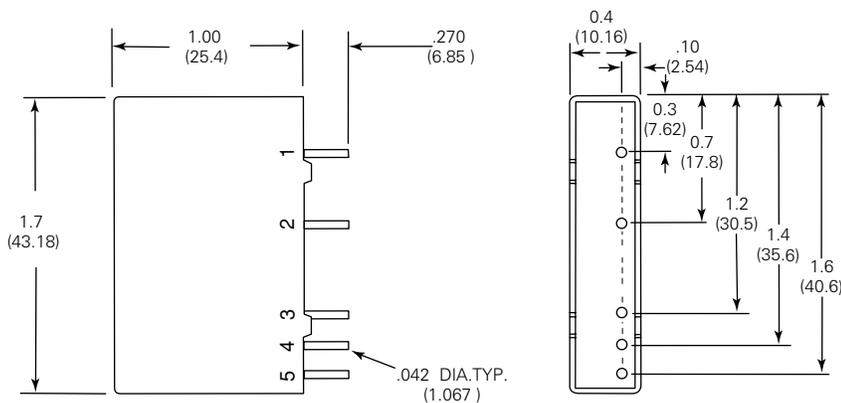
IDCM Operating Diagram



ODCM Operating Diagram



Outline Dimensions



Note: Pin 5 is not present on Output Modules.

Mouser Electronics

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