



FEMA ELECTRÓNICA, S.A.

SIGNAL CONVERTERS WITH GALVANIC ISOLATION



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INFORMATION
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SERIES ISC

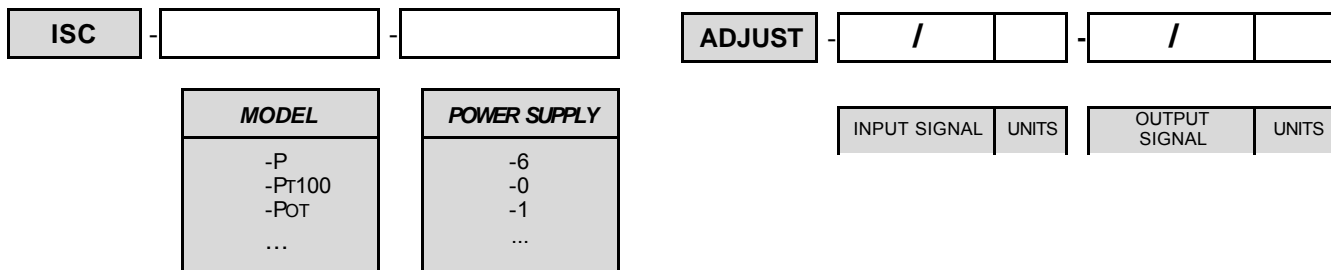
SIGNAL CONVERTERS WITH TRIPLE GALVANIC ISOLATION BETWEEN INPUT, OUTPUT AND POWER SUPPLY, 3500 V (60 SECONDS). FOR DIN RAIL MOUNTING. WIDE RANGE OF INPUT SIGNALS. OUTPUTS IN 4/20mA AND 0/10VDC AND OTHERS. ERGONOMIC DESIGN HOUSING, WITH ACCESS TO SPAN AND OFFSET POTENTIOMETERS FROM THE FRONTAL UP/DOWN DOOR. CONNECTIONS WITH PLUG-IN SCREW CLAMPS FOR EASY MAINTENANCE. ALLOWS RETRANSMISSION OF SIGNALS COMING FROM TRANSDUCERS, PROBES, ETC TO LONG DISTANCES WITH HIGH NOISE IMMUNITY, INTRODUCING AT THE SAME TIME SECURITY AND PROTECTION DUE TO THE GALVANIC ISOLATION BETWEEN CIRCUITS. 0,2% ACCURACY AND RESPONSE TIMES UP TO 70 mS, DESIGNED FOR DATA ACQUISITION IN 12 BIT SYSTEMS.



ISOLATED SIGNAL CONVERTERS :

- | | |
|--------------------------------------|-------|
| ▪ FOR PROCESS SIGNALS IN MA AND VDC | PAG.2 |
| ▪ FOR PT100 / RTD PROBES | PAG.2 |
| ▪ FOR THERMOCOUPLE PROBES | PAG.2 |
| ▪ FOR AC AND DC VOLTAGES | PAG.3 |
| ▪ FOR AC AND DC CURRENTS | PAG.3 |
| ▪ FOR RESISTANCES AND POTENTIOMETERS | PAG.3 |
| ▪ FOR FREQUENCY SIGNALS | PAG.4 |
| ▪ FOR LOADCELLS | PAG.4 |

ORDERING FORMAT



ISOLATED SIGNAL CONVERTER FOR PROCESS SIGNALS

- ISC-P-6** ISOLATED SIGNAL CONVERTER FOR SIGNALS : PROCESS IN mA AND VDC
 INPUT SIGNALS IN 4/20 mA, 0/10 VDC AND INTERMEDIATE RANGES
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-P-0** POWER SUPPLY 230V AC (*)
ISC-P-1 POWER SUPPLY 115V AC (*)

ISOLATED SIGNAL CONVERTER FOR PT100 / RTD PROBES

- ISC-PT100-6** ISOLATED SIGNAL CONVERTER FOR SIGNALS COMING FROM A PT100 / RTD PROBES
 INPUT SIGNAL RANGES COVERING FROM -50°C TO 600°C
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-PT100-0** POWER SUPPLY 230 V AC (*)
ISC-PT100-1 POWER SUPPLY 115 V AC (*)

ISOLATED SIGNAL CONVERTER FOR THERMOCOUPLE PROBES

- ISC-TJ-6** ISOLATED SIGNAL CONVERTER FOR THERMOCOUPLE J PROBES
 INPUT SIGNAL RANGES FROM 0/150°C A 0/700°C
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-TJ-0** POWER SUPPLY 230 V AC (*)
ISC-TJ-1 POWER SUPPLY 115 V AC (*)
- ISC-TK-6** ISOLATED SIGNAL CONVERTER FOR THERMOCOUPLE K PROBES
 INPUT SIGNAL RANGES FROM 0/150°C TO 0/1200°C
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-TK-0** POWER SUPPLY 230 V AC (*)
ISC-TK-1 POWER SUPPLY 115 V AC (*)
- ISC-TE-6** ISOLATED SIGNAL CONVERTER FOR THERMOCOUPLE E PROBES
 INPUT SIGNAL RANGES FROM 0/100°C TO 0/800°C
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-TE-0** POWER SUPPLY 230 V AC (*)
ISC-TE-1 POWER SUPPLY 115 V AC (*)
- ISC-TT-6** ISOLATED SIGNAL CONVERTER FOR THERMOCOUPLE T PROBES
 INPUT SIGNAL RANGES AT 0/200°C, 0/300°C AND 0/400°C
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-TT-0** POWER SUPPLY 230 V AC (*)
ISC-TT-1 POWER SUPPLY 115 V AC (*)
- ISC-TR-6** ISOLATED SIGNAL CONVERTER FOR THERMOCOUPLE R PROBES
 INPUT SIGNAL RANGE FROM 0/1700°C
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-TR-0** POWER SUPPLY 230 V AC (*)
ISC-TR-1 POWER SUPPLY 115 V AC (*)
- ISC-TS-6** ISOLATED SIGNAL CONVERTER FOR THERMOCOUPLE S PROBES
 INPUT SIGNAL RANGE FROM 0/1600°C
 OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
 POWER SUPPLY 24VDC
- ISC-TS-0** POWER SUPPLY 230 V AC (*)
ISC-TS-1 POWER SUPPLY 115 V AC (*)

ISOLATED SIGNAL CONVERTER FOR AC AND DC VOLTAGES

ISC-VDC-6	ISOLATED SIGNAL CONVERTER FOR SIGNALS IN VDC DIFFERENT INPUT SIGNALS FROM 0/60 mVDC FOR SHUNTS, UP TO 0/600 VDC OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS POWER SUPPLY 24VDC
ISC-VDC-0	POWER SUPPLY 230V AC (*)
ISC-VDC-1	POWER SUPPLY 115V AC (*)
ISC-VAC-6	ISOLATED SIGNAL CONVERTER FOR SIGNALS IN VAC DIFFERENT INPUT SIGNALS FROM 0/60 mVAC UP TO 0/600 VAC OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS POWER SUPPLY 24VDC
ISC-VAC-0	POWER SUPPLY 230V AC (*)
ISC-VAC-1	POWER SUPPLY 115V AC (*)

ISOLATED SIGNAL CONVERTER FOR AC AND DC CURRENTS

ISC-IDC-6	ISOLATED SIGNAL CONVERTER FOR SIGNALS IN ADC DIFFERENT INPUT SIGNALS FROM 0/100 mADC UP TO 0/5 ADC OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS POWER SUPPLY 24VDC
ISC-IDC-0	POWER SUPPLY 230V AC (*)
ISC-IDC-1	POWER SUPPLY 115V AC (*)
ISC-IAC-6	ISOLATED SIGNAL CONVERTER FOR SIGNALS IN AAC DIFFERENT INPUT SIGNALS FROM 0/100 mAAC UP TO 0/5 AAC FOR CURRENT TRANSFORMERS OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS POWER SUPPLY 24VDC
ISC-IAC-0	POWER SUPPLY 230V AC (*)
ISC-IAC-1	POWER SUPPLY 115V AC (*)

ISOLATED SIGNAL CONVERTER FOR POTENTIOMETRIC AND RESISTANCE SIGNALS

ISC-POT-6	ISOLATED SIGNAL CONVERTER FOR POTENTIOMETRIC SIGNALS POTENTIOMERS WITH VALUE BETWEEN 100 OHMS AND 1 MOHM INPUT SIGNAL RANGES : 100%, 50% 25% AND 12.5% OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS POWER SUPPLY 24VDC
ISC-POT-0	POWER SUPPLY 230 V AC (*)
ISC-POT-1	POWER SUPPLY 115 V AC (*)
ISC-RES-6	ISOLATED SIGNAL CONVERTER FOR POTENTIOMETRIC SIGNALS POTENTIOMETERS VALUE FROM 750 OHMS TO 10 KOHM OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS POWER SUPPLY 24VDC
ISC-RES-0	POWER SUPPLY 230 V AC (*)
ISC-RES-1	POWER SUPPLY 115 V AC (*)

NOTE - UNITS MARKED WITH (*) HAVE A WIDER HOUSING THAN SHOWN

ISOLATED SIGNAL CONVERTER FOR FREQUENCY SIGNALS

- ISC-HZ-6** ISOLATED SIGNAL CONVERTER FOR SIGNALS IN FREQUENCY
DIFFERENT INPUT SIGNALS FROM 0/20 HZ TO 0/60 KHZ AND INTERMEDIATE RANGES
ACCEPTS SENSORS TYPE NPN, PNP, NAMUR AND VAC
GENERATES +15 VDC POWER LINE TO BE USED TO POWER-UP SENSORS
OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
POWER SUPPLY 24VDC
- ISC-HZ-0** POWER SUPPLY 230V AC (*)
- ISC-HZ-1** POWER SUPPLY 115V AC (*)

ISOLATED SIGNAL CONVERTER FOR LOAD CELLS

- ISC-LC-6** ISOLATED SIGNAL CONVERTER FOR SIGNALS COMING FROM LOAD CELLS
DIFFERENT INPUT SIGNALS FOR LOADCELLS OF 1mV/V , 2mV/V AND 3mV/V
TARE FUNCTION UP TO +50% OF THE FULL SCALE
OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
SEPARATED POTENTIOMETER FOR TARE PURPOSES
POWER SUPPLY 24VDC
- ISC-LC-0** POWER SUPPLY 230V AC (*)
- ISC-LC-1** POWER SUPPLY 115V AC (*)

NOTE .- UNITS MARKED WITH (*) HAVE A WIDER HOUSING THAN SHOWN

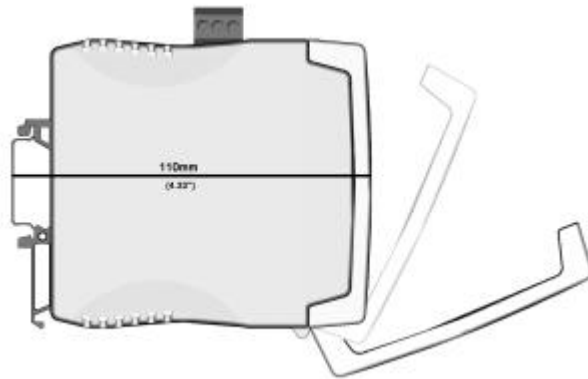
SIZES AND SIDE VIEW FOR ISC UNITS



FRONT VIEW
ISC POWERED :
230 OR 115VAC



FRONT VIEW
ISC POWERED :
24 VDC



SIDE VIEW ISC
DETAIL OF FRONT COVER GIVING ACCESS TO POTENTIOMETER AND
JUMPERS FOR ADJUSTMENT

CCT SERIES

SIGNAL CONVERTERS WITH TRIPLE GALVANIC ISOLATION, 2KVEFF (1 MINUTE) BETWEEN INPUT, OUTPUT AND POWER. FOR DIN RAIL MOUNTING. WIDE RANGE OF INPUT SIGNALS AND POWER SUPPLIES. OUTPUTS IN 4/20mA AND 0/10VDC BETWEEN OTHERS. ALLOWS FOR LONG DISTANCES SIGNAL RETRANSMISION WITH HIGH NOISE IMMUNITY, INCREASING SECURITY AND PROTECTION INTO THE SYSTEMS THANKS TO THE ISOLATION BETWEEN CIRCUITS.



CONVERTERS ISOLATORS FOR :

- VOLTAGE VAC AND VDC SIGNALS PAG.6
- CURRENT AAC AND mA DC SIGNALS PAG.6
- TEMPERATURE SIGNALS PAG.6
- FREQUENCY HZ SIGNALS PAG.7
- ANALOGUE INPUTS WITH FREQUENCY OUTPUTS PAG.7
- LOADCELL SIGNALS PAG.7
- RESISTIVE AND POTENTIOMETRIC OHMS SIGNALS PAG.7

- POWER SUPPLY OPTIONS PAG.7

ORDERING FORMAT

CCT				ADJUST	/		/	
	MODEL	POWER			INPUT SIGNAL RANGE	UNITS	OUTPUT SIGNAL RANGE	UNITS
	-01 -20 -32 ...	-0 -1 -2 ...						

CONVERTER ISOLATOR FOR VOLTAGE V_{AC} AND V_{DC} SIGNALS

- CCT-01** CONVERTER ISOLATOR FOR V_{DC} SIGNALS
INPUT SIGNAL RANGES FROM 0/20 mV_{DC} TO 0/650 V_{DC}
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-08** CONVERTER ISOLATOR FOR V_{AC} SIGNALS
INPUT SIGNAL RANGES FROM 0/20 mV_{AC} TO 0/650 V_{AC}
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS

CONVERTER ISOLATOR FOR CURRENT A_{AC} AND mA_{DC} SIGNALS

- CCT-04** CONVERTER ISOLATOR FOR A_{AC} SIGNALS
INPUT SIGNAL RANGES FROM 0/5 mA_{AC} TO 0/50 mA_{AC}
INPUT SIGNAL RANGES FROM 0/1 A_{AC} TO 0/5 A_{AC}
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-32** CONVERTER ISOLATOR FOR mA_{DC} SIGNALS
INPUT SIGNAL RANGES FROM 0/0,5 mA_{DC} TO 0/50 mA_{DC}
ACCEPTS INPUT FOR SIGNALS 4/20 mA AND 0/20 mA
EXCITATION VOLTAGE FOR TRANSDUCERS 24V_{DC} (25 mA)
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS

CONVERTER ISOLATOR FOR TEMPERATURE SIGNALS

- CCT-20** CONVERTER ISOLATOR FOR PT100 / RTD SIGNALS, FOR 2 AND 3 WIRE SYSTEM PROBES
INPUT SIGNAL RANGES FROM 0/50 TO 600 °C
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-22** CONVERTER ISOLATOR FOR THERMOCOUPLE J SIGNALS
INPUT SIGNAL RANGES FROM 0/400 °C TO 0/700 °C
INTERNAL COMPENSATION OF THE THERMOCOUPLE COLD JUNCTION
LINEARIZATION OF THE THERMOCOUPLE CURVE, IN 7 SEGMENTS
SENSOR BREAK DETECTION
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-23** CONVERTER ISOLATOR FOR THERMOCOUPLE K
INPUT SIGNAL RANGES FROM 0/300 °C TO 0/1200 °C
INTERNAL COMPENSATION OF THE THERMOCOUPLE COLD JUNCTION
LINEARIZATION OF THE THERMOCOUPLE CURVE, IN 7 SEGMENTS
SENSOR BREAK DETECTION
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-24** CONVERTER ISOLATOR FOR THERMOCOUPLE T
INPUT SIGNAL RANGES FROM 0/200 °C TO 0/400 °C
INTERNAL COMPENSATION OF THE THERMOCOUPLE COLD JUNCTION
LINEARIZATION OF THE THERMOCOUPLE CURVE, IN 7 SEGMENTS
SENSOR BREAK DETECTION
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-25** CONVERTER ISOLATOR FOR THERMOCOUPLE E
INPUT SIGNAL RANGE 0/800 °C
INTERNAL COMPENSATION OF THE THERMOCOUPLE COLD JUNCTION
LINEARIZATION OF THE THERMOCOUPLE CURVE, IN 7 SEGMENTS
SENSOR BREAK DETECTION
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-26** CONVERTER ISOLATOR FOR THERMOCOUPLE S
INPUT SIGNAL RANGE FROM 600/1600 °C
INTERNAL COMPENSATION OF THE THERMOCOUPLE COLD JUNCTION
LINEARIZATION OF THE THERMOCOUPLE CURVE, IN 7 SEGMENTS
SENSOR BREAK DETECTION
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS
- CCT-27** CONVERTER ISOLATOR FOR THERMOCOUPLE R
INPUT SIGNAL RANGE FROM 850/1700 °C
INTERNAL COMPENSATION OF THE THERMOCOUPLE COLD JUNCTION
LINEARIZATION OF THE THERMOCOUPLE CURVE, IN 7 SEGMENTS
SENSOR BREAK DETECTION
OUTPUT SIGNAL IN 4/20 mA AND 0/10 V_{DC} AND OTHERS

CONVERTER ISOLATOR FOR FREQUENCY Hz SIGNALS

- CCT-05** CONVERTER ISOLATOR FOR FREQUENCY SIGNALS, SINUSOIDAL OR PULSES
INPUT SIGNAL RANGES FROM 0/40HZ TO 0/40KHZ
ACCEPTED SIGNALS : NPN AND PNP (3WIRES AND OPEN COLECTOR), NAMUR AND VAC UP TO 400 VAC
EXCITATION VOLTAGE FOR TRANSDUCERS 24VDC (25 mA) AND 8.2VDC FOR NAMUR
OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS

CONVERTER ISOLATOR FOR ANALOG INPUT AND FREQUENCY OUTPUT

- CCT-55V** CONVERTER ISOLATOR WITH FREQUENCY OUTPUT
INPUT SIGNAL RANGES FROM 0/10mVDC TO 0/650VDC
OUTPUT SIGNAL UP TO 0/10000 PULSES/SECOND
OUTPUT SIGNAL UP TO 0/8790 PULSES/HOUR
- CCT-55I** CONVERTER ISOLATOR WITH FREQUENCY OUTPUT
INPUT SIGNAL RANGES FROM 0/0,5 mADC TO 0/50 mADC
OUTPUT SIGNAL UP TO 0/10000 PULSES/SECOND
OUTPUT SIGNAL UP TO 0/8790 PULSES/HOUR

CONVERTER ISOLATOR FOR LOADCELL SIGNALS

- CCT-80** CONVERTER ISOLATOR FOR LOADCELLS
FOR LOADCELLS WITH 4 AND 6 WIRE SYSTEMS
TYPICAL CELL INPUT IMPEDANCE : 350 OHMS
TARE ADJUST VIA INTERNAL TRIMMER
TYPICAL INPUT SIGNAL 20mV
ADJUSTABLE FOR SIGNALS FROM 10 TO 30 mV
OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS

NOTE : THIS MODEL DOES NOT PROVIDE EXCITATION VOLTAGE FOR LOADCELLS. POWER SUPPLY MODEL FAR1 IS DESIGNED SPECIALLY FOR LOADCELLS POWER-UP.

CONVERTER ISOLATOR FOR RESISTIVE AND POTENTIOMETRIC SIGNALS

- CCT-90** CONVERTER ISOLATOR FOR POTENTIOMETRICS SIGNALS COMING FROM 3 WIRE SYSTEM RESISTIVE TRANSDUCERS
ACCEPTS SIGNALS FROM 100 OHMS TO 1MOHM
OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS
- CCT-95** CONVERTER ISOLATOR FOR RESISTIVE SIGNALS, IN 2 WIRE SYSTEMS
ACCEPTS SIGNALS FROM 200 OHMS TO 200KOHMS
OUTPUT SIGNAL IN 4/20 mA AND 0/10 VDC AND OTHERS

POWER SUPPLY OPTIONS

- 0** POWER SUPPLY 230 V AC 50/60HZ
- 1** POWER SUPPLY 115 V AC 50/60HZ
- 2** POWER SUPPLY 24 V AC 50/60HZ
- 3** POWER SUPPLY 48 V AC 50/60HZ
- 6** POWER SUPPLY 24 V DC ISOLATED

CCT-100 SERIES

AUTOPOWERED GALVANIC ISOLATOR, FOR CURRENT LOOPS UP TO 50mA DC. DIN RAIL MOUNTING. INPUT AND OUTPUT SIGNAL CIRCUITS ISOLATED TO 2KV EFF (1 MINUTE). SMALL SIZE 22.5X75X98.5mm.



- AUTOPOWERED GALVANIC ISOLATOR

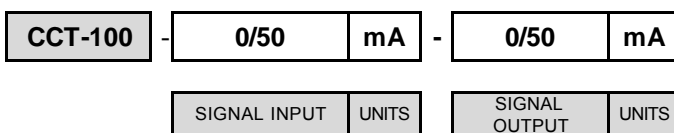
PAG.8

AUTOPOWERED GALVANIC ISOLATOR

CCT-100

GALVANIC ISOLATOR FOR DIN RAIL
 INPUT SIGNAL 0/50mA
 OUTPUT SIGNAL IDENTICAL TO INPUT SIGNAL
 ISOLATION 2KV EFF DURING 1 MINUTE
 AUTOPOWERED FROM CURRENT LOOP
 INPUT IMPEDANCE= LOAD IMPEDANCE+ 3/INPUT CURRENT

ORDERING FORMAT



FAR SERIES

POWER SUPPLIES FOR DIN RAIL MOUNTING. DESIGNED TO POWER SENSORS AND LOW POWER SIGNAL ADQUISITION SYSTEMS, WHICH NEED A POWER SUPPLY SEPARATE FROM THE SIGNAL CIRCUIT. ALSO MODELS TO POWER LOADCELLS.



- POWER SUPPLIES WITH *SENSE* FUNCTION FOR LOADCELLS PAG.9
- GENERAL PURPOSE POWER SUPPLIES PAG.9
- OPTIONS PAG.9

POWER SUPPLIES WITH *SENSE* FUNCTION FOR LOADCELLS

FAR-1 POWER SUPPLY FOR LOADCELLS, IN 4 AND 6 WIRE SYSTEMS
 OUTPUT VOLTAGE: 10V DC AND UP TO 250mA
 FOR LOADCELLS WITH TY PICAL INPUT IMPEDANCE OF 350 OHMS
 ALLOWS UP TO 4 LOADCELLS POWERED
 DIN RAIL MOUNTING
 INCORPORATES *SENSE* FUNCTION, TO COMPENSATE VOLTAGE VARIATIONS ON THE LOADCELL
 (ONLY FOR 6 WIRE SYSTEM LOADCELLS)

GENERAL PURPOSE POWER SUPPLIES

FAR-2 POWER SUPPLY FOR LOW POWER SYSTEMS, GENERAL PURPOSE
 VOLTAGE OUTPUT SELECTABLE FROM 5 TO 24VDC
 MAXIMUM POWER DEPENDING ON VOLTAGE OUTPUT
 DIN RAIL MOUNTING

POWER SUPPLY OPTIONS

- 0** POWER SUPPLY 230 V AC 50/60HZ
- 1** POWER SUPPLY 115 V AC 50/60HZ

ORDERING FORMAT

