

INDEX OF GANZ DIGITAL PANEL METERS



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2008 / 4

GENERAL INFORMATION OF GANZ DIGITAL PANEL METERS



STANDARDS

GANZ measuring instruments are made according to the EN 61010-1 standards.

FIXING

The instruments are equipped with special fixing elements.

VIBRATIONS AND SHOCKPROOFNESS

The instruments are made according to the EN 50155 standards

VOLTAGE TEST

The instruments comply with the standards EN 61010-1.

PROTECTION

Casing: IP 40 (IP54 or IP65 on request).

Terminals: IP 00, DIN 40050.

ENVIRONMENT

Calibration is for an ambient temperature of +20°C.

Operating temperature range: 0 ... +50°C.

Storage temperature range: -20°C ... +70°C.

Relative humidity: $\alpha < 85$.

-1.9.9.9.

3 1/2 DIGIT DIN & SQUARE SIZE PANEL METERS TYPE DM35



Models: DM35-45r, DM35-72q, DM35-96q

The panel meter suitable for measuring DC or AC voltage, and DC or AC current.

TECHNICAL DATA:

- Input impedance: . >1MΩ in voltage, 0.2V dropout in current metering
- Isolation: Cat III. 600V (Test: 3320V_{eff} 1 min)
- Display: 3 1/2 digits LED
- Measuring speed: 3/s
- Weight: max. 0.15kg

FEATURES:

- Analog regulated instrument with digital display.
- Unit printed on front.
- Screw plug in terminal blocks on rear.
User Settings by Potentiometers:
- End deflection: ... -20%...+15% (in comparison with the nominal value)
- Zero point: 0 ... -25% (in DC measuring)



Dimensions →	45r	72q	96q
Height of digits (mm)	9	14	14
Display dimmer input	no	no	no

DM35 meters ordering data:

DM35 - Dimension - Input - Display - Power Supply

Dimension (W x H mm)	Input		Display				Power Supply Voltage / Isolation
	Range	Measuring / Accuracy	Range	Unit	Color	Dimmer Input	
45r (45x85)	Voltage: up to 800V ¹	DC / 0.2% ±1D	Max: ±1999	by request	red	no	230V AC / 5kV
72q (72x72)	Current: up to 5A	AC average / 0.5% ±1D			orange		24V DC / 1kV
96q (96x96)					yellow		5-28V DC / No
					green		5V DC / 1kV

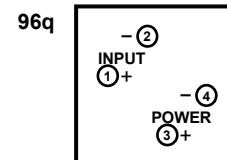
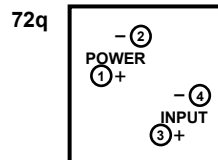
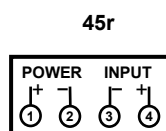
¹ At 45r model max 500V

Example: Ordering data: **DM35 - 72q - 4...20mA, DC - 0...100.0, %, red, no - 24V DC**

- Case: 72x72mm
- Input: 4...20mA DC
- Display: 00.0...100.0 red LED 14mm
- Unit: %
- Power Supply: 24V DC isolated.

Note: On request for extra charge special ranges are possible.
Outline dimensions and cut-outs page 14-19.

Connection diagram:

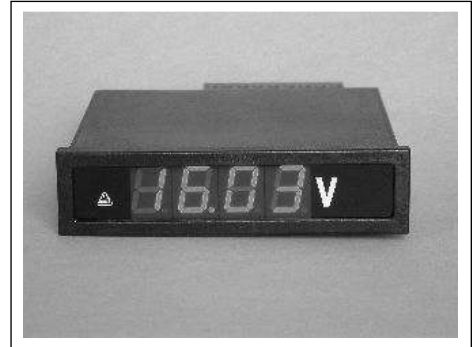


Models: DM35-48v, DM35-72v, DM35-96v

The panel meter suitable for measuring DC or AC voltage, and DC or AC current.

TECHNICAL DATA:

- Input impedance: . >1MΩ in voltage, 0.2V dropout in current metering
- Isolation: Cat III. 600V (Test: 3320V_{eff} 1 min)
- Display: 3 ½ digits LED
- Measuring speed: 3/s
- Weight: max. 0.15kg



FEATURES:

- Analog regulated instrument with digital display.
- Display dimmer input (optional). The external Dimmer unit is requested from Ganz Instruments Ltd.
- Unit printed on front.
- Screw plug in terminal blocks on rear.
User Settings by Potentiometers:
- End deflection: ... -20%...+15% (in comparison with the nominal value)
- Zero point: 0 ... -25% (in DC measuring)

Dimensions →	48v	72v	96v
Height of digits (mm)	9	13	13
Display dimmer input	no	demandable	demandable

DM35 meters ordering data:

DM35 - Dimension - Input - Display - Power Supply

Dimension (W x H mm)	Input		Display				Power Supply Voltage / Isolation
	Range	Measuring / Accuracy	Range	Unit	Color	Dimmer Input	
48v (48x24)	Voltage: up to 800V ¹	DC / 0.2% ±1D	Max: ±1999	by request	red	no	230V AC / 5kV
72v (72x24)	Current: up to 5A	AC average / 0.5% ±1D			orange	yes	24V DC / 1kV
96v (96x24)					yellow		5-28V DC / No
					green		5V DC / 1kV

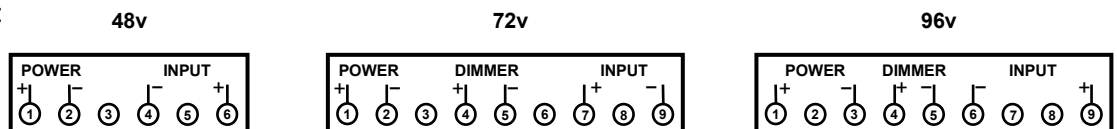
¹ At 48v model max 500V

Example: Ordering data: **DM35 - 48v - 4...20mA, DC - 0...100.0, %, red, no - 24V DC**

- Case: 48x24mm
- Input: 4...20mA DC
- Display: 00.0...100.0 red LED 9mm
- Unit: %
- Power Supply: 24V DC isolated.

Note: On request for extra charge special ranges are possible.
Outline dimensions and cut-outs page 14-19.

Connection diagram:



Models: DM35-72p, DM35-96p, DM35-144p

The panel meter suitable for measuring DC or AC voltage, and DC or AC current.

TECHNICAL DATA:

- Input impedance: . >1MΩ in voltage, 0.2V dropout in current metering
- Isolation: Cat III. 600V (Test: 3320V_{eff} 1 min)
- Display: 3 ½ digits LED
- Measuring speed: 3/s
- Weight: max. 0.2kg



FEATURES:

- Analog regulated instrument with digital display.
- Display dimmer input (optional). The external Dimmer unit is requested from Ganz Instruments Ltd.
- Unit printed on front.
- Screw plug in terminal blocks on rear.
- User Settings by Potentiometers:
- End deflection: ... -20%...+15% (in comparison with the nominal value)
- Zero point: 0 ... -25% (in DC measuring)

Dimensions →	72p	96p	144p
Height of digits (mm)	14	14	38
Display dimmer input	demandable	demandable	no

DM35 meters ordering data:

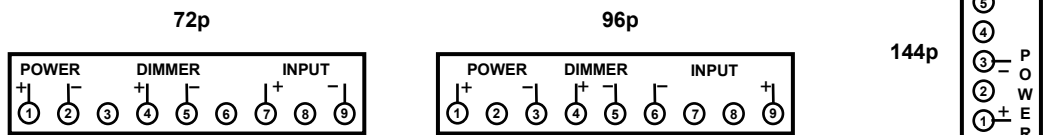
DM35 - Dimension - Input - Display - Power Supply

Dimension (W x H mm)	Input		Display				Power Supply Voltage / Isolation
	Range	Measuring / Accuracy	Range	Unit	Color	Dimmer Input	
72p (72x36)	Voltage: up to 800V	DC / 0.2% ±1D	Max: ±1999	by request	red	no	230V AC / 5kV
96p (96x48)	Current: up to 5A	AC average / 0.5% ±1D			orange	yes	24V DC / 1kV
144p (144x72)					yellow		5-28V DC / No
					green		5V DC / 1kV

Example: Ordering data: **DM35 – 72p – 4...20mA, DC – 0...100.0, %, red, no – 24V DC**
 Case: 72x36mm
 Input: 4...20mA DC
 Display: 00.0...100.0 red LED 14mm
 Unit: %
 Power Supply: 24V DC isolated.

Note: On request for extra charge special ranges are possible.
 Outline dimensions and cut-outs page 14-19.

Connection diagram:



Models: CM40-48v, CM40-72p, CM40-96p, CM40-144p


The panel meter suitable for measuring DC or AC voltage, and DC or AC current.

TECHNICAL DATA:

- Input impedance: . 1MΩ at voltage, 60mV dropout at current metering
- Input isolation: Cat III. 1kV (Test: 4300V_{eff} 1 min)
- Display: 4 digits LED +sign
- Accuracy: ± 0.1 %
- Measuring speed: 2/s
- Weight: max. 0.15kg



FEATURES:

- Full digital operation with software regulation.
- The instrument is adjustable with Ganz Monitor (GMS). 
(The Ganz Monitor Unit is requested from Ganz Instruments Ltd.)
User Settings: zero value, end value on display, place of decimal point on/off sign, and negative display value, reverse sign
- EMC protection.
- Unit printed on front, or displayed by LED.
- Screwy plug in terminal blocks on rear.



Dimensions →	48v	72p	96p	144p
Height of digits (mm)	9	14	14	25
Unit marking on front	printed	printed	by LED	by LED
Display dimmer input	no	demandable	demandable	demandable

CM40 meters ordering data:

CM40 - **Dimension** - **Input** - **Display** - **Power Supply**

Dimension	Input		Display				Power Supply
(W x H mm)	Range	Measuring	Range	Unit	Color	Dimmer Input	Voltage / Isolation
48v (48x24) ¹	Voltage: up to 500V	DC	Max: ±9999	by request	red	no	230V AC / 5kV
72p (72x36)	Current: up to 5A	AC average			orange	yes	115V AC / 5kV
96p (96x48)		AC true RMS			yellow		
144p (144x72)					green		
							5V DC / 1kV

¹ The boxes are different for AC and DC supply.

Example: Ordering data: **CM40 - 144p - 4...20mA, DC - 0...99.99, %, red, no - 230V AC**

Case: 144x72mm

Input: 4...20mA DC

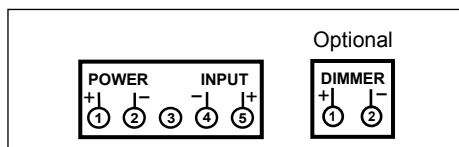
Display: 0.00...99.99 % red LED without dimmer input

Power Supply: 230V AC 3.5W

Note: On request for extra charge special version are possible.

Outline dimensions and cut-outs page 14-19.

Connection diagram:



Models: CM41-96v


The panel meter suitable for measuring DC or AC voltage, DC or AC current, and have two programmable relay outputs.

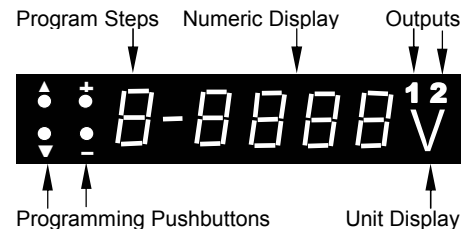
TECHNICAL DATA:

- Input impedance: . 1MΩ at voltage, 60mV dropout at current metering
- Input isolation: Cat III. 1kV (Test: 4300V_{eff} 1 min)
- Display: ... 4 digits LED +sign (digital brightness control on front panel)
- Accuracy: ± 0.1 %
- Programable outputs: 2 relay, 230V 2A (max.60VA)
- Interface: RS485 (optional)
- Measuring speed: 2/s
- Weight: max. 0.2kg



FEATURES:

- Full digital operation with software regulation.
- The instrument is adjustable by pushbuttons in front board, with Ganz Monitor (GMS), or across serial line (optional). 
- (The Ganz Monitor Unit is requested from Ganz Instruments Ltd.)
- User Settings: zero value, end value on display, place of decimal point on/off sign, and negative display value, reverse sign compared values of display with hysteresis for outputs network settings (with optional inbox interface)
- EMC protection.
- Unit marking displayed by LED.
- Screwly plug in terminal block on rear.



Dimensions →	96v			
Height of digits (mm)	10			

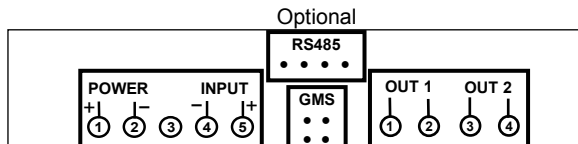
CM41 meters ordering data: **CM41** - **Dimension** - **Input** - **Display** - **Interface** - **Power Supply**

Dimension	Input		Display			Interface	Power Supply
(W x H mm)	Range	Measuring	Range	Unit	Color	RS485	Voltage / Isolation
96v (96x24)	Voltage: up to 500V	DC	Max: ±9999	by request	red	no	230V AC / 5kV
	Current: up to 5A	AC average			orange	yes	115V AC / 5kV
		AC true RMS			yellow		24V DC / 1kV
					green		5V DC / 1kV

Example: Ordering data: **CM41 - 96v - 4...20mA, DC - 0...99.99, %, red - no - 230V AC**
 Case: 96x24mm
 Input: 4...20mA DC
 Display: 0.00...99.99 % red LED
 Interface: no serial line
 Power Supply: 230V AC 1.5W

Note: On request for extra charge special version are possible. Outline dimensions and cut-outs page 14-19.

Connection diagram:

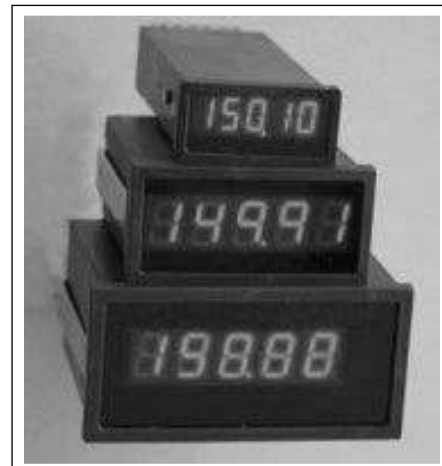


Models: CM45-72p, CM45-96p, CM45-144p

The panel meter suitable for measuring DC or AC voltage, and DC or AC current.

TECHNICAL DATA:

- Input impedance: . 1MΩ at voltage, 60mV dropout at current metering
- Input isolation: Cat III. 1kV (Test: 4300V_{eff} 1 min)
- Display: 4 ½ digits LED +sign
- Accuracy: ± 0.1 %
- Measuring speed: 2/s
- Weight: max. 0.2kg



FEATURES:

- Full digital operation with software regulation.
- The instrument is adjustable with Ganz Monitor (GMS).
(The Ganz Monitor Unit is requested from Ganz Instruments Ltd.)
User Settings: zero value, end value on display, place of decimal point on/off sign, and negative display value, reverse sign
- EMC protection.
- Unit printed on front.
- Screwy plug in terminal blocks on rear.



Dimensions →	72p	96p	144p
Height of digits (mm)	13	14	25
Display dimmer input	demandable	demandable	demandable

CM45 meters ordering data:

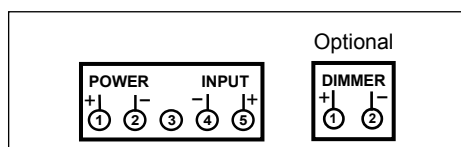
CM45 - Dimension - Input - Display - Power Supply

Dimension	Input		Display				Power Supply
(W x H mm)	Range	Measuring	Range	Unit	Color	Dimmer Input	Voltage / Isolation
72p (72x36)	Voltage: up to 500V	DC	Max: ±19999	by request	red	no	230V AC / 5kV
96p (96x48)	Current: up to 5A	AC average			orange	yes	115V AC / 5kV
144p (144x72)		AC true RMS			yellow		24V DC / 1kV
					green		5V DC / 1kV

Example: Ordering data: **CM45 - 144p - 4...20mA, DC - 0...100.00, %, red, no - 230V AC**
 Case: 144x72mm
 Input: 4...20mA DC
 Display: 0.00...100.00 % red LED without dimmer input
 Power Supply: 230V AC 3.5W

Note: On request for extra charge special version are possible.
 Outline dimensions and cut-outs page 14-19.

Connection diagram:



Model: CM2i - 72p

The panel meter suitable for measuring DC or AC voltage, and DC or AC current.

TECHNICAL DATA:

- Input: two channels (isolated)
- Input impedance: >1MΩ in voltage, 0.1V dropout in current
- Display: ... 4 digits LED +sign (digital brightness control on front panel)
- Measuring speed: 3/s (both channel)



OPTIONS, FEATURES:

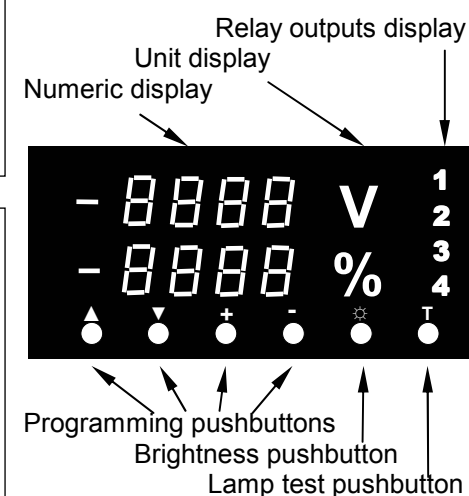
- RS 485 interface circuit
- 2x 2 relay outputs (2A, 230V, max 60VA, programable)
- Orderable power supplies: 5 ... 28V DC non isolated
24V DC isolated
115V AC isolated
230V AC isolated
(The inputs each other, and from system always isolated.)

USER SETTINGS:

The instrument is programmable by pushbuttons in front board, with Ganz Monitor (GMS), or across serial line (optional).

(The Ganz Monitor Unit is requested from Ganz Instruments Ltd.)

- zero value, end value on display, place of decimal point
- on/off sign and negativ display value, reverse sign
- compared values with hysteresis for relay outputs
- network settings (with optional inbox interface)



Dimension	72p
Height of digits (mm)	7

CM2i meters ordering code: **CM2i** - **72p** - **XX.XX** - **X.X** - **XXX** - **Scale**

	Ch1 . Ch2 Input Range					Accuracy	Color			Power Supply	Output	Interface	
	-1	-2	-3	-4	-5		Ch1	Ch2					
1-	±0.1V DC	±1V DC	±10V DC	±100V DC	±600V DC	0.1% ±1D	R	red	red	0	----	no	no
2-	0.1V AC	1V AC	10V AC	100V AC	600V AC	0.1% ±1D	O	orange	orange	1	230V AC 2W / 5kV	relay	RS485
3-	±10mA DC	±20mA DC	±100mA DC	±1A DC	±6A DC	0.1% ±1D	Y	yellow	yellow	2	115V AC 2W / 5kV	transistor	----
4-	10mA AC	20mA AC	100mA AC	1A AC	6A AC	0.2% ±1D	G	green	green	3	24V DC 50mA / 1kV	----	----
5-	----	4-20mA DC	----	----	----	0.1% ±1D	B	---	---	4	5-28V DC 0.15A / No	----	----

Example:

Ordering code: **CM2i-72p-25.52-RG-401- 0...600 V. 0...99.99 %**
 Ch1: Input: 600V AC, Display: 0.0 ... 600.0 red LED, Unit: V
 Ch2: Input: 4-20mA DC, Display: 0.00 ... 99.99 green LED, Unit: %, No sign
 Power: 5-28V DC
 Interface: RS 485

Note: On request for extra charge special ranges are possible.
 Outline dimensions and cut-outs page 14-19.

-19.99

FREQUENCY PANEL METERS TYPE CMF1



Model: CMF1-72q

The panel meter suitable for measuring AC frequency.

TECHNICAL DATA:

- Input frequency range: 10.00Hz...99.99Hz
- Input impedance: 1MΩ
- Input voltage range: 10V...1000V AC
- Display: 4 digits LED



USER SETTINGS:

The instrument is programmable with Ganz Monitor (GMS).
 (The Ganz Monitor Unit is requested from Ganz Instruments Ltd.)



Dimension	72q
Height of digits (mm)	14

CMF1 meter ordering code:

CMF1 - **72q** - **X** - **X**

Display		Power Supply	
	Color		Voltage / Isolation
R	red	1	230V AC 1.5W / 5kV
O	orange	2	24V DC 50mA / 1kV
Y	yellow	3	5-10V DC 70mA / No
G	green	4	5V DC 0.2A / 1kV
B	----		

Example: Ordering code: **CMF1-72q-R-2**
 Case: 72x72mm
 Display: red
 Power Supply: 24V DC isolated.

Note: On request for extra charge special ranges are possible.
 Outline dimensions and cut-outs page 14-19.

Models: DIM1-72v, DIM1-96p

The instrument suitable for controlling the light intensity of display the digital panel meters type DM35.

TECHNICAL DATA:

- Numbers of contacted meters: max.20 pieces
- Light intensity: 0...100%
- Display: 10x10mm LED



USER SETTINGS:

- The light intensity of connected meters is adjustable by rotating knob on front panel.

Dimension	72v	96p
------------------	------------	------------

DIM1 dimmer ordering code:

DIM1 - **Dimension** - **X** - **X**

Display		Power Supply	
	Color		Voltage / Isolation
R	red	1	230V AC 1.5W / 5kV
O	orange	2	24V DC 50mA / 1kV
Y	yellow	3	----
G	green	4	5V DC 0.2A / 1kV
B	----		

Example: Ordering code: **DIM1-96p-R-2**
 Case: 96x48mm
 Display: red
 Power Supply: 24V DC isolated.

Note: On request for extra charge special ranges are possible.
 Outline dimensions and cut-outs page 14-19.

Model: BM3L-96v

The panel meter suitable for measuring DC or AC voltage, and DC or AC current.

TECHNICAL DATA:

- Input impedance: . . >1MΩ in voltage, 0.2V dropout in current metering
- Display: 30 pieces LED bargraph
- Scale (division) on request.

USER SETTINGS:

- End deflection: .. -0%...+100% (in comparison with the nominal value)



Display	96v
Number of LEDs	30 pieces

BM3L meter ordering code:



Input Range							Display		Power Supply	
	-1	-2	-3	-4	-5	Accuracy	Color	Mode	Voltage / Isolation	
1-	0.2V DC	2V DC	20V DC	200V DC	800V ¹ DC	2.5%	R red	1 dot	1	230V AC 1.5W / 5kV
2-	----	2V AC	20V AC	200V AC	800V ¹ AC	2.5%	O orange	2 bar	2	24V DC 50mA / 1kV
3-	2mA DC	20mA DC	0.2A DC	2A DC	6A DC	2.5%	Y yellow		3	6-16V DC 70mA / No
4-	2mA AC	20mA AC	0.2A AC	2A AC	6A AC	2.5%	G green		4	5V DC 0.2A / 1kV
5-	----	4-20mA DC	----	----	----	2.5%	B ----			

¹ Only with AC power supply.

Example: Ordering code: **BM3L-96v-52-R2-2- 0...500 V**
 Input: 4...20mA DC
 Display: red bar
 Scale: 0...500
 Unit: V
 Power Supply: 24V DC isolated.

Note: On request for extra charge special ranges are possible.
 Outline dimensions and cut-outs page 14-19.



GANZ SYSTEM MONITOR TYPE SM16



Model: SM16-01z

The Monitor Unit is applicable to test and set instruments with GMS (Ganz Monitor System) logo made by Ganz Instruments Ltd. by connecting. The Monitor with its LCD display and keyboard makes possibly the writing and reading of the 255 memory cells of the instrument connected. The functions of the independent memory cells are different to type to type, these are in the GMS description given with the individual instruments.

The Monitor is a portable instrument on batteries. The use of every individual Monitor is bound to a unique PIN (Personal Identification Number) code (max. 5 digits), which one must be typed-in first, without knowing it neither writing nor reading of data is possible. In case of writing or modification of data the instrument on test, the serial number of the Monitor will be saved automatically to a memory cell. With the reading of this number can the Monitor and/or the test person to be identified.

The use of the Monitor is very simple. The Monitor automatically goes on, when the test cords are plugged to the GMS-connector of the instrument on test. After typing of the individual PIN-code the contact with the instrument to test will be live and the type and the serial number of the instrument is shown on the display. In RUN mode the content of the designed memory cell is shown continuously on the display. The data can be displayed in four different forms (1, 4, 8, and 16-bit) by pressing the BIT-button, with sign or as an absolute number (SIGN-button). The content of the memory cells can be modified in all display mode. By switching to STOP mode the reading stops and the content of the memory cell can be modified via the keyboard. The GMS description of the instruments is a list containing the content of the individual memory cells with the interpretation of the figures of the LCD display in text, with their meaning and that which display mode (B1, B4, B8, or B16) is to set for the interpretability of the data.



INSTRUMENT

		9.9.9.9.		
MEMORY		FUNCTION		
0 0 1	Zero Value			
0 0 2	Gain Value			
0 0 3	Decimal Point			
0 0 4	Network Address			
2 5 5	Software Version			

As an example:

B16	1 6 - - - - 1
MEM:001=	[_ # # # #]

SIGN

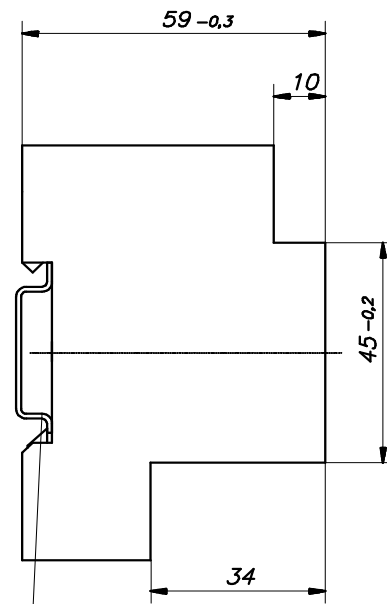
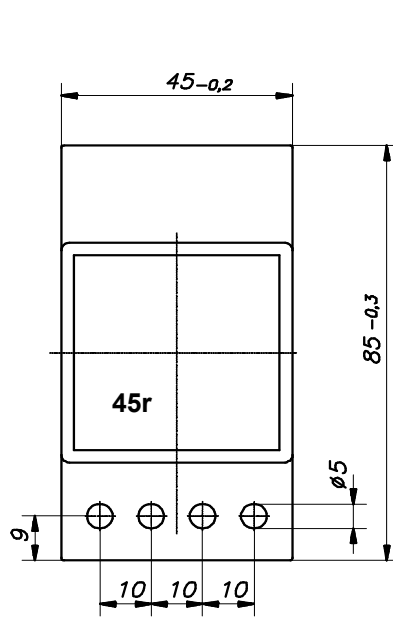
Ch1 zero value. (-32767 ... +32767 relativ number)

This is a virtual potentiometer which shifted the displayed value up (positiv number) or down (negativ number).

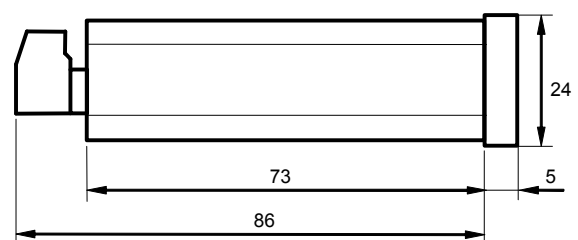
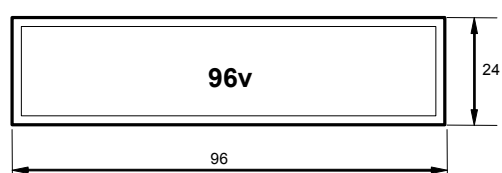
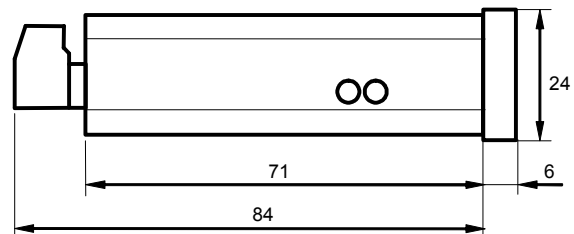
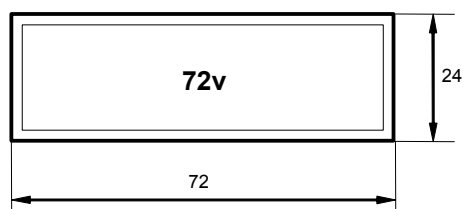
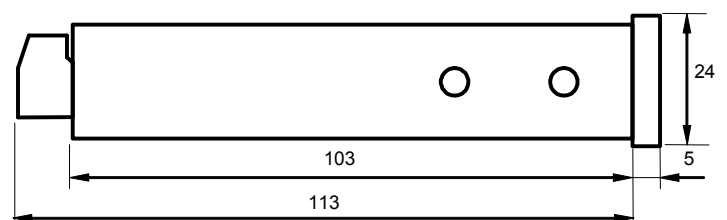
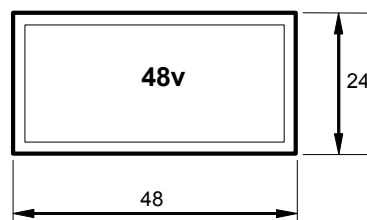
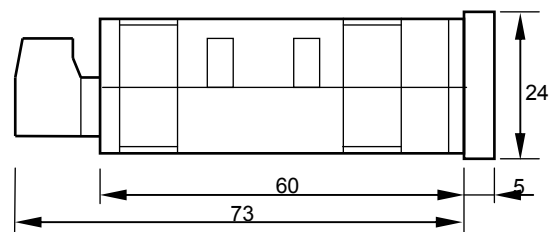
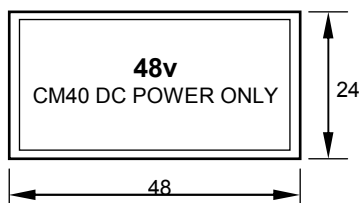
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Valid Network Address. (for network interface)

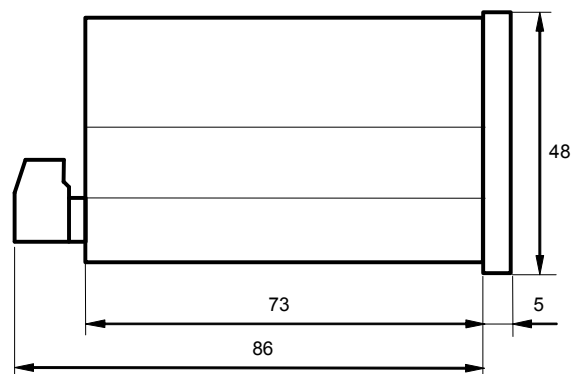
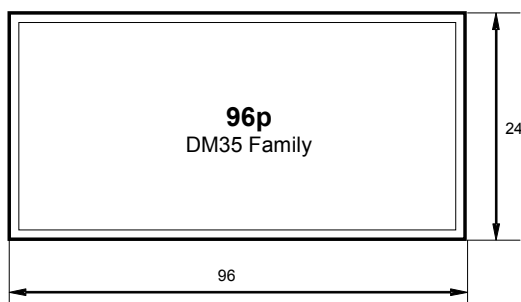
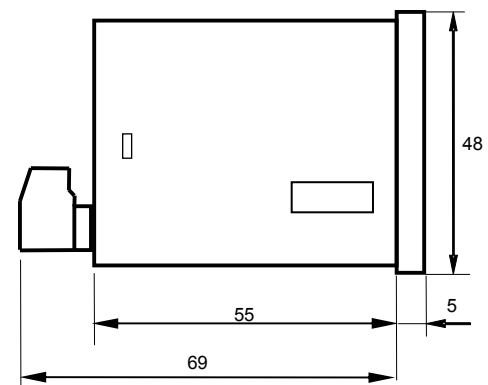
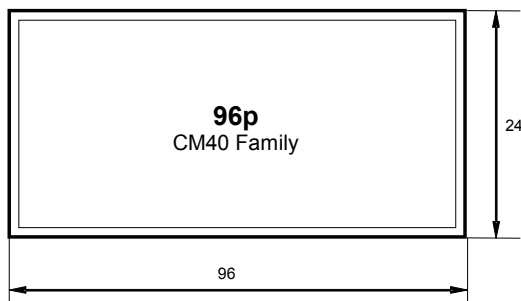
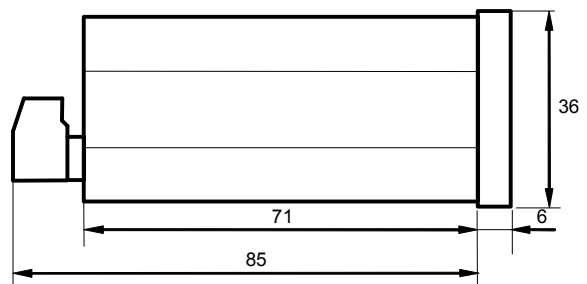
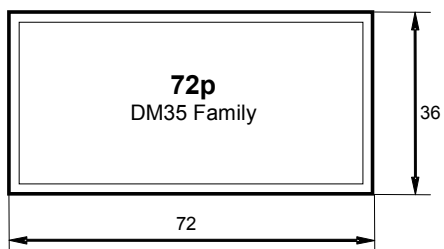
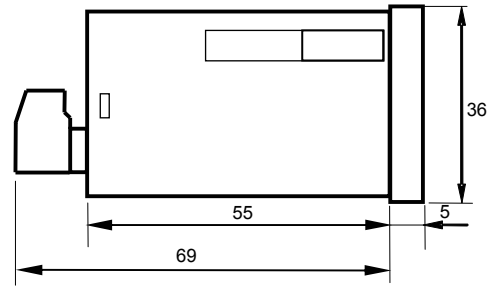
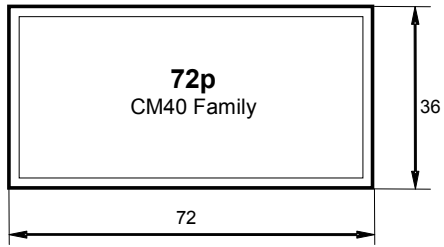
OUTLINE DIMENSIONS



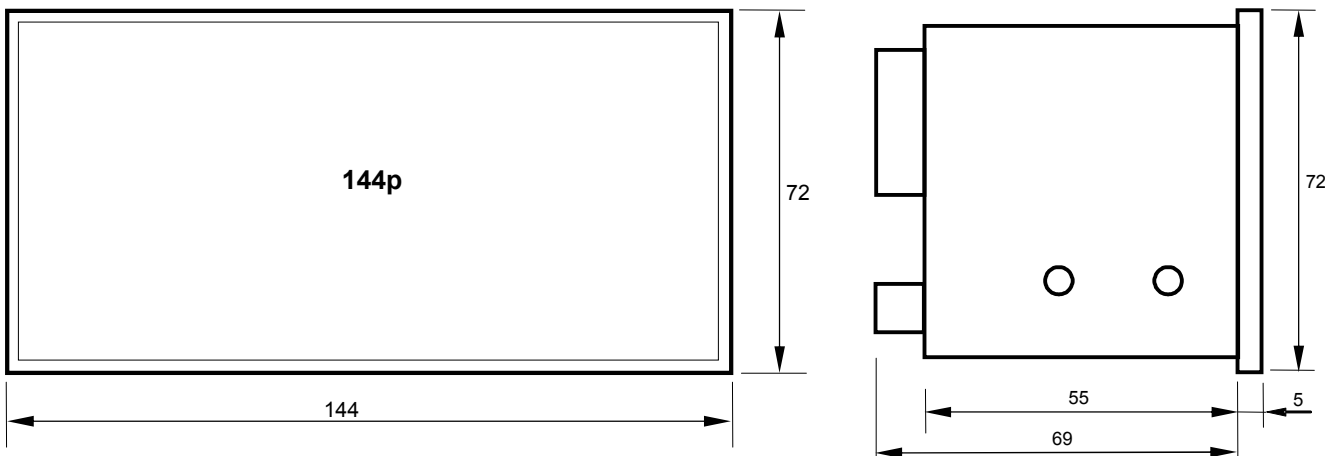
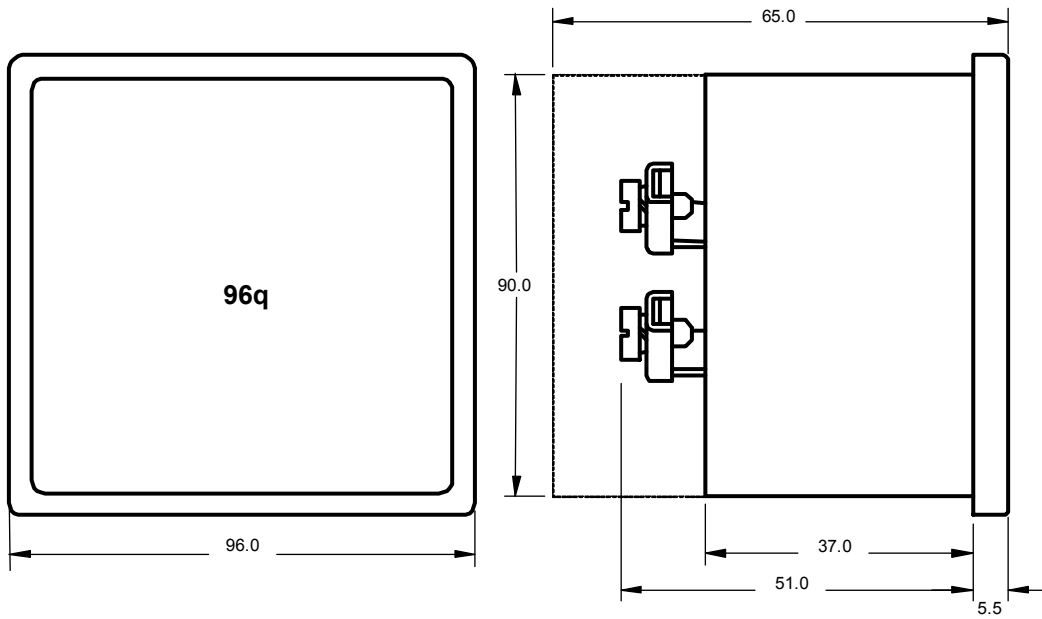
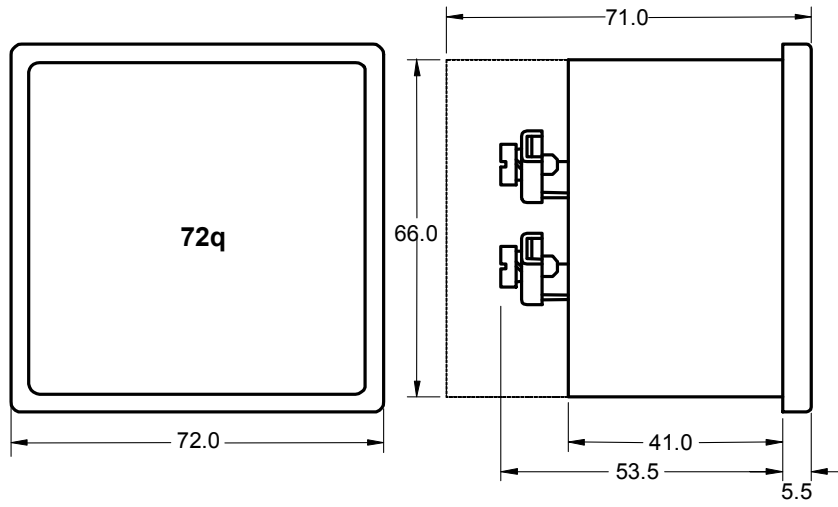
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(DIN 46277)



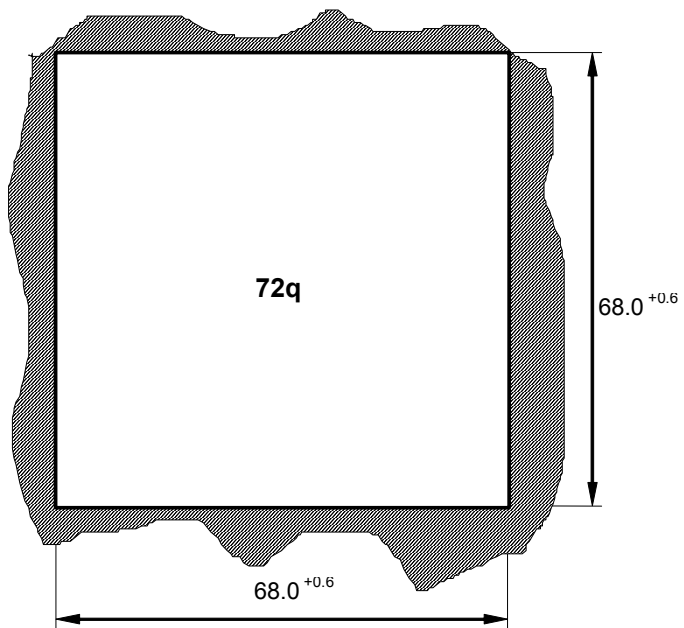
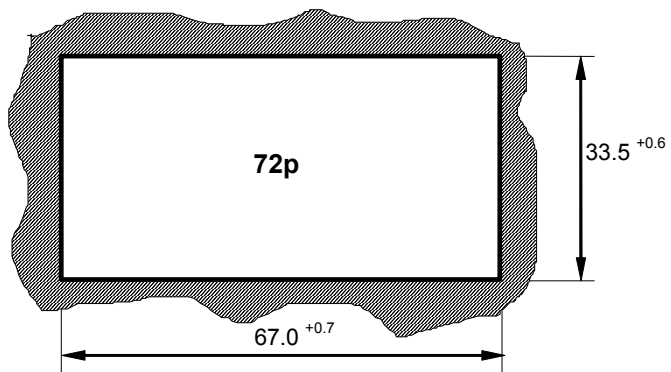
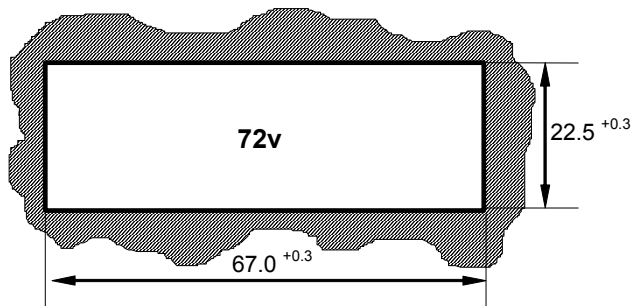
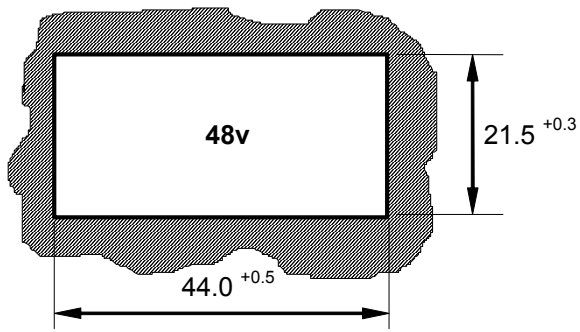
OUTLINE DIMENSIONS



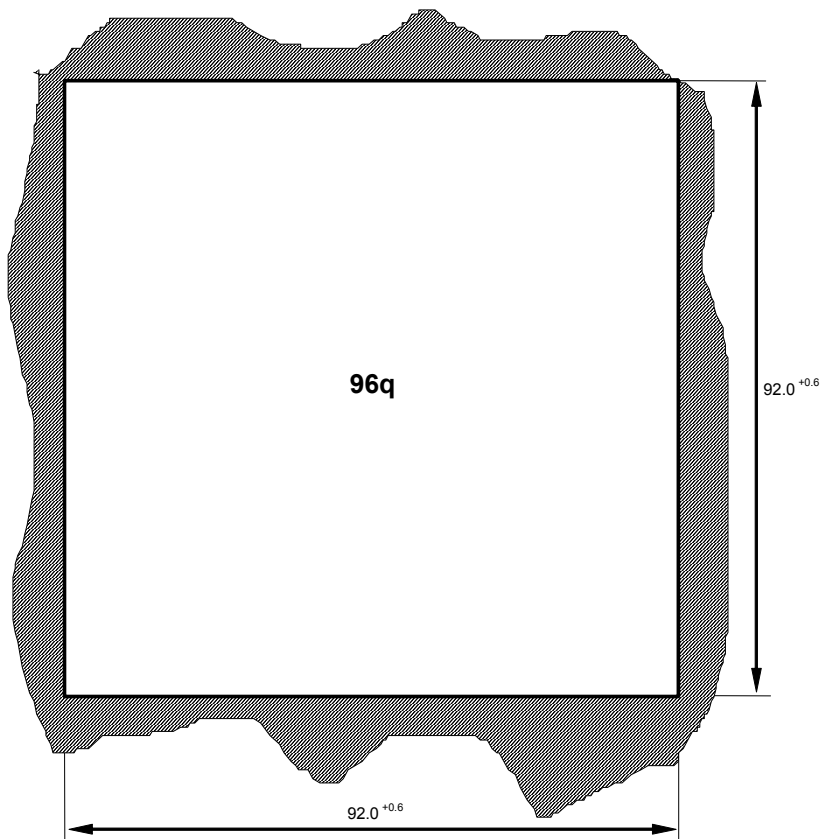
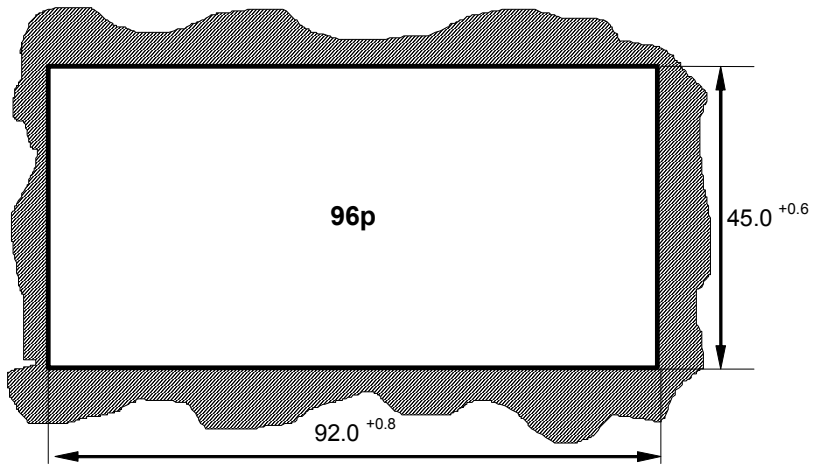
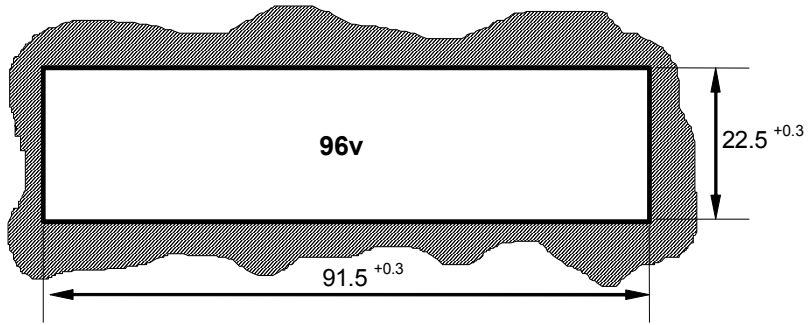
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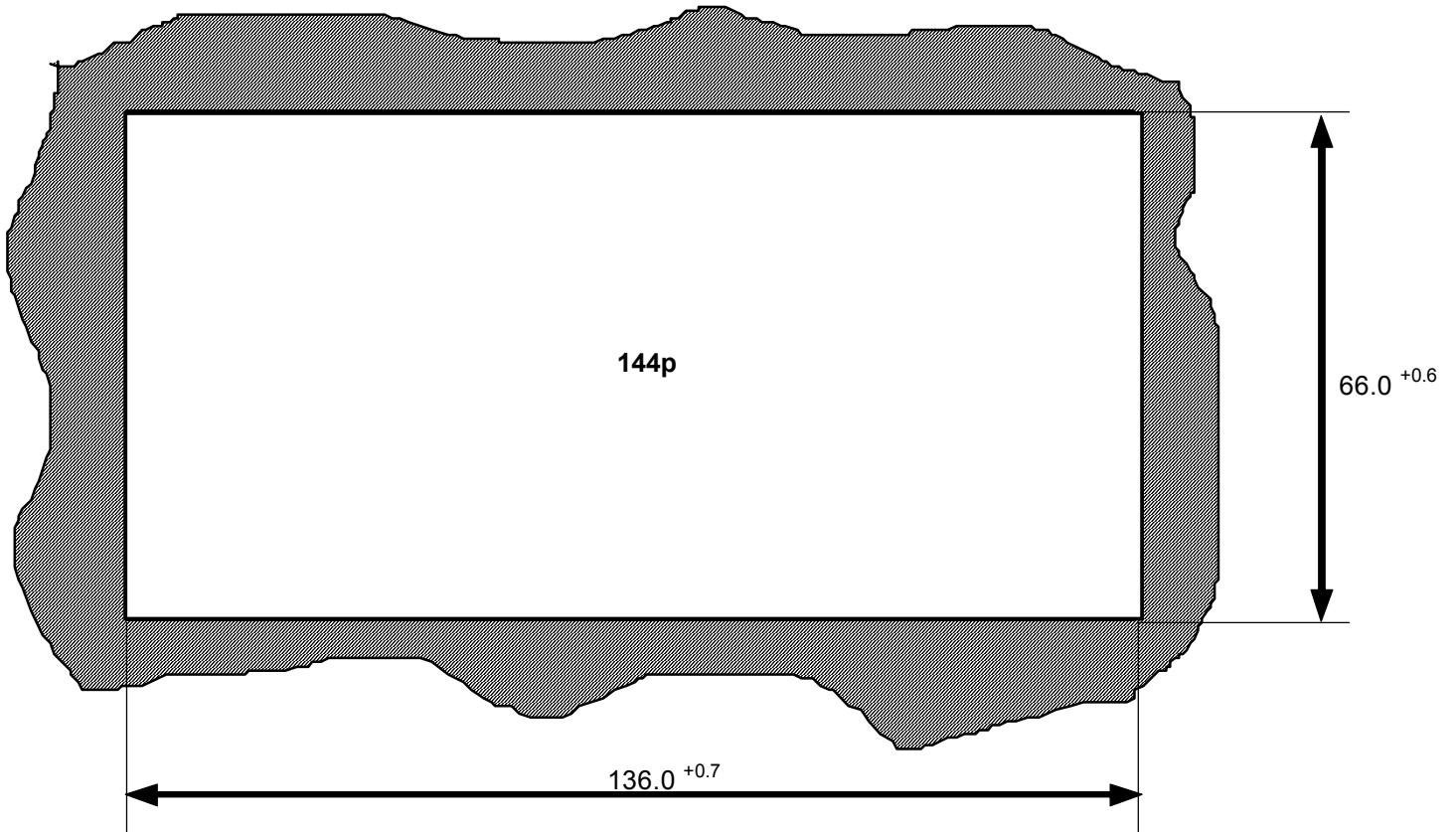
CUT-OUTS



CUT-OUTS



CUT-OUTS



COMMENTS



COMMENTS





DET NORSKE VERITAS

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 18783-2007-AQ-BUD-RvA

This is to certify that

GANZ Műszer ZRt.

11-1191 Budapest, Üllői út 200.

has been found to conform to the Management System Standard:

ISO 9001:2000

This Certificate is valid for the following product or service ranges:

Development, production and sale of electrical and electromechanical measuring equipment

Initial Certification date:
April 05, 2007

Place and date:
Budapest, April 05, 2007

This Certificate is valid until:
April 05, 2010

The audit has been performed under the supervision of:

Hartmann Levente
Lead Auditor



for the Accredited Unit:
DNV CERTIFICATION B.V.,
THE NETHERLANDS

Zrupkó János
Management Representative

Lack of fulfilment of conditions as set out in the Appendix may render this Certificate invalid.
DNV CERTIFICATION B.V., Haastrechtstraat 7, 3079 DC Rotterdam, The Netherlands, TEL.INT.:+31 10 2922 688, FAX:+31 10 4796 768