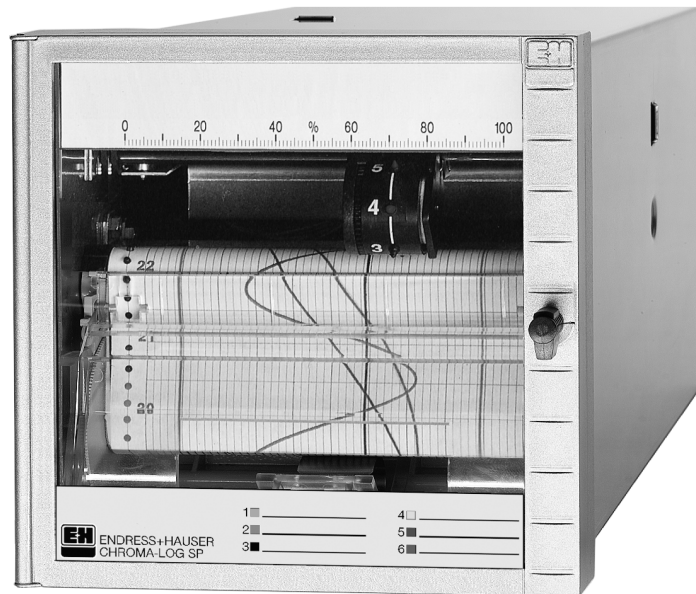


Colour dot recorder *chroma-log sp*

Economical dotting recorder with 6 analogue inputs for recording slow changing analogue values.



Application

Chroma-log sp colour chart recorders are applied:

- in OEM applications
- for local information
- centrally in a control panel
- where slow changing analogue values must be recorded
- where up to 6 channels need to be plotted on chart paper

Features and benefits

Freely selectable

- Measurement range (standard signals)
- Feed rate
- Dot sequence
- Zero and span
- Paper types
- Intelligent dotting function



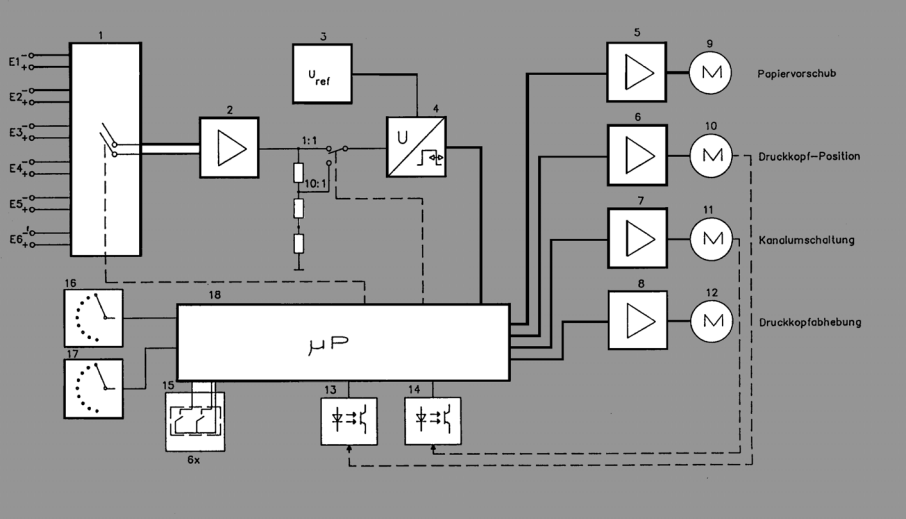
Function

- Cyclic optical reference point comparison and fast dot sequence guarantees optimal signal plot
- Change controlled recording and presettable channel activation guarantees a long operational life of both the print wheel as well as the mechanics
- Optically monitored and stepper motor controlled colour change guarantees recorder reliability
- Easy application on site due to switchable measurement ranges, paper feed rates and dot sequences

Combination cassette for both roll chart and Z fold paper

- Paper roll for long term recording
- Z fold paper for swift overview
- Stepper motor drive for reliable paper feed

Block Diagram



- | | | | |
|--------|---------------------------|--------|-------------------------|
| 1 | Scanner 6:1 (Reed-Relais) | 13, 14 | Position identifier |
| 2 | Impedance convertor | 15 | Input range switch |
| 3 | Reference voltage source | 16 | BCD switch paper feed |
| 4 | Convertor | 17 | BCD switch dot sequence |
| 5 - 8 | Amplifier | 18 | Controller |
| 9 - 12 | Stepper motors | | |

Strip Chart

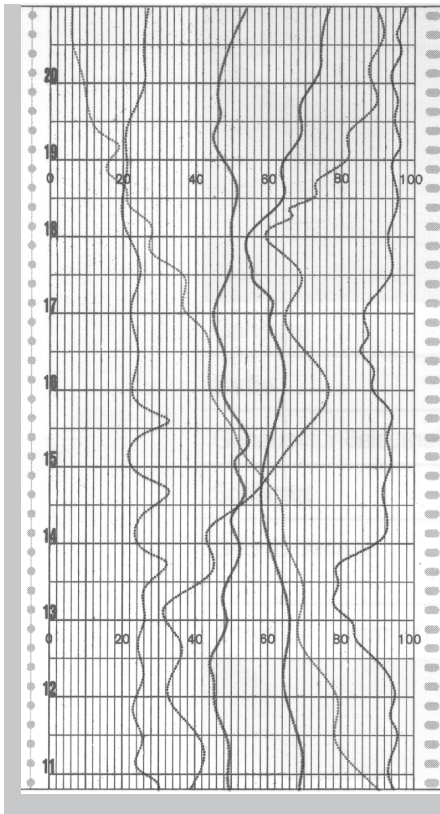
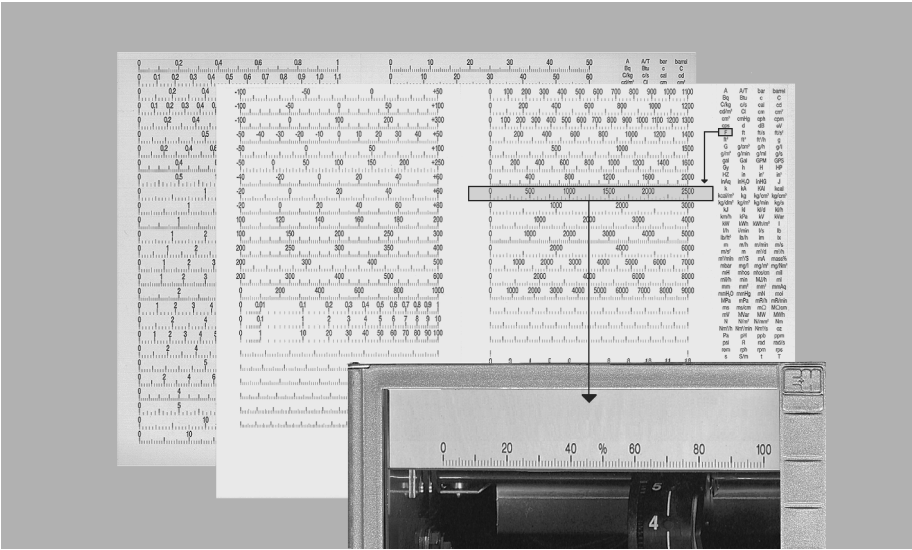


Chart example chroma-log sp
... The timed sequences of 1 to 6 measurement points are documented as coloured dotted lines on 120 mm wide normal paper.

Adhesive Scales

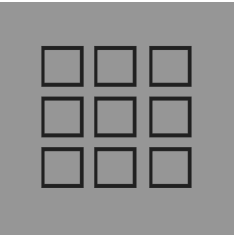
A sheet of adhesive scales per channel is delivered with the unit. This scale sheet contains a large number of the most used scales. Included are also a number of blank scales of various divisions.

These can be easily written on and therefore made to suit unusual requirements. The whole is completed by the addition of a large number of engineering unit stickers ($^{\circ}\text{C}$, l/s, $\mu\text{S}/\text{cm}$, ...)

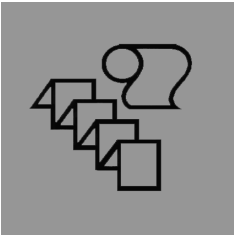


Adhesive scales

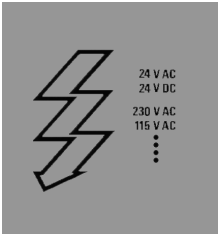
Advantages



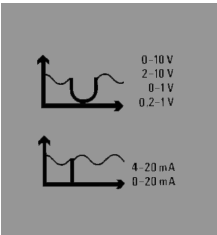
Side by side installation



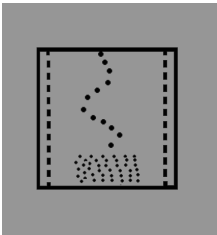
Roll chart or Z-fold paper with one cassette



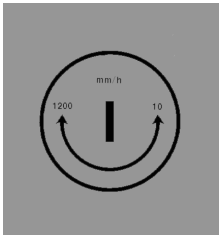
The correct power supply with one cassette



Variable input signals



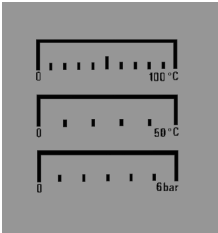
Presettable dot sequence



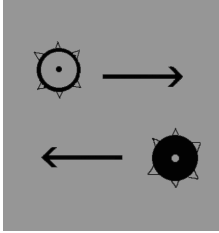
Presettable feed rate



Intelligent dot function guarantees reliable operation

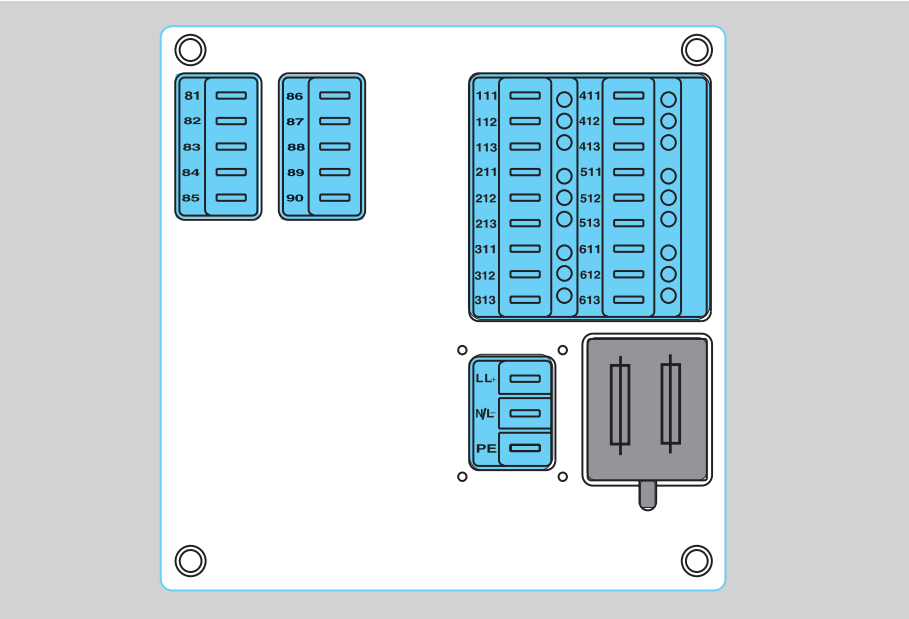
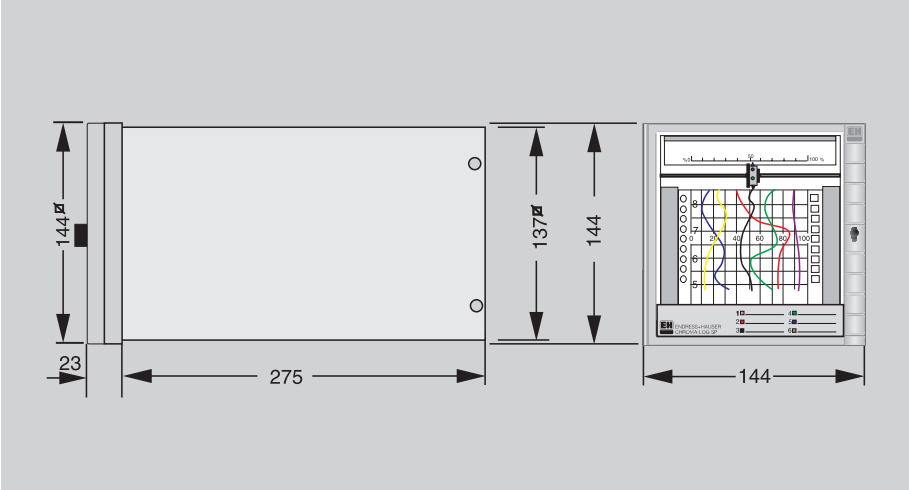


Made to measure scale



Simple print head change

Installation / Connections



Terminal layout

Terminal Layout

Terminal identification	Power supply	
	24/115/230 VAC	
L/L +	L	
N/L -	N	
PE	Earth	
Terminal identification	Channel number	Standard version
111	Channel 1	+ input
112	Channel 1	- input
113	Channel 1	not used
211	Channel 2	+ input
212	Channel 2	- input
213	Channel 2	not used
311	Channel 3	+ input
312	Channel 3	- input
313	Channel 3	not used
411	Channel 4	+ input
412	Channel 4	- input
413	Channel 4	not used
511	Channel 5	+ input
512	Channel 5	- input
513	Channel 5	not used
611	Channel 6	+ input
612	Channel 6	- input
613	Channel 6	not used
81-90	Not used	

Technical Data

Operating

Signal inputs	Measurement ranges: Voltage: 0 ... 1 V,, 0.2 ... 1 V,, 0 ... 10 V,, 2 ... 10 V Current: 0 ... 20 mA,, 4 ... 20 mA using a shunt (internal)
	Input impedance > = 1 MOhm on voltage / 50 Ohm on current
	Accuracy: Class 0.5 to DIN 43782,, Part 2 Base accuracy: ≤ 0.5 % of FSD Long term drift: ≤ 0.2 % of FSD Power up drift (to 4h): ≤ 0.1 % of FSD Temperature drift: ≤ 0.1 % of FSD / 10 K Reference conditions (if not otherwise stated) are to IEC 65 B (co) 40: Temperature 20° C,, air pressure 860 - 1060 hPa, relative humidity: 65 %
Influencing effects	Climatic To DIN 40040,, 43782/Part 2 Ambient temperature: 0 .. +50° C non condensing Storage temperature: -20 .. +70° C Recording paper: to DIN 16234
	EMC/Immunity To NAMUR recommendation (AK 05),, February 1988: No substantial functional interference due to - Elect. fast transient (burst): Level 3 IEC 801-4 VDE 0843/4 - Electrostatic discharge: Level 3 IEC 801-2 VDE 0843/2 - Electromagnetic fields: Level 2 IEC 801-3 VDE 0843/3
	Normal mode noise rejection 30 dB at input range/10 (50 Hz)
	Common mode noise rejection ≤ 0.1 % Measurement span at 250 V/50 Hz
	Power failure No functional loss on power loss for up to 20 ms
	Potential difference Channel to channel 250 V
Recorder/display	EMC/emission To EN 55011: Class B
	Scales One or two (option) exchangeable adhesive scales
	Recording system Exchangeable 6 chamber colour print wheel Channel 1: violett, Channel 2: red, channel 3: black channel 4: green, channel 5: blue, channel 6: brown
	Paper feed rate using selector switch Presetable to: 0-10-20-60-120-300-600-1200 mm/h
	Paper type Selectable roll chart- (approx. 32 m) or Z fold (approx. 16 m)
Power	Supply ranges AC: 230 V - 115 V - 24 V (50/60 Hz - each +10/-15 %)
	Electrical security To VDE 0411/IEC 348
	Primary fuse 80 mA slow blow (230 V power supply) 160 mA slow blow (115 V power supply) 0.8 A slow blow (24 V AC power supply)
Housing/connections	Housing Stainless steel for panel mounting 144 x 144 mm, installation depth 275 mm
	Front door Metal door, protection IP54
	Protection class IP 54 to DIN 40050
	Operational angle 90° +/- 10° without limitation 90° +/- 30° with limitation on recording
	Connections Spade connectors (DIN 46244) 6.3 x 0.8 mm or 2.8 x 0.8 mm

Technical alterations reserved !

How to order

Colour dotting recorder Chroma-Log SP						
Power supply						
H	230 V AC, 50/60 Hz					
F	115 V AC, 50/60 Hz					
D	24 V AC, 50/60 Hz					
Model						
F	144 x 144 mm panel mounting					
Front door						
1	Metal door, protection class IP54 with latch					
Paper cassette						
A	Cassette with roll chart paper (32 m)					
B	Cassette with Z-fold paper (16 m)					
Channel 1 to 6 input signals						
B	0-1/10V, 0/4-20mA, selectable per channel					
L	Special current range 0-1 mA					
M	Special current range 0-5 mA					
Scale						
1	Adhesive scale sheet					
Operating instructions						
D	Instructions in German					
E	Instructions in English					
<div><div>CHROSP-</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>← Complete order code</div></div>						

International Head Quarter

Endress+Hauser
GmbH+Co. KG
Instruments International
Colmarer Str. 6
79576 Weil am Rhein
Deutschland

Tel.+49 76 21 9 75 02
Fax +49 76 21 9 75 34 5
www.endress.com
info@ii.endress.com

Endress+Hauser

Nothing beats know-how

