



M12 D-coded 10/100M transformer receptacles



GENERAL INFORMATION

No. of contacts	4 poles
Contact resistance	10 mOhm Max.
Working temperature range	-40°C - +85°C
Termination technology	SMT
Reflow processing temperature	245°C Max.
Total insertion force	10N Max. according to IEC 61076-2-101
Total withdrawal force	15N Max. according to IEC 61076-2-101
Mating cycles	100 mating cycles, according to IEC 61076-2-101
Shock and vibration proof	according to IEC 61076-2-101
RoHS - compliant	Yes
Lead free	Yes
PSL level acc. ECA/IPC/JEDEC J-STD-075	R7

INSULATION MATERIAL

Material	LCP (liquid crystalline polymer)
Color	Black
UL classification	UL94-V0
Material group acc. IEC 60664-1	IIIa (175 ≤ CTI < 400)

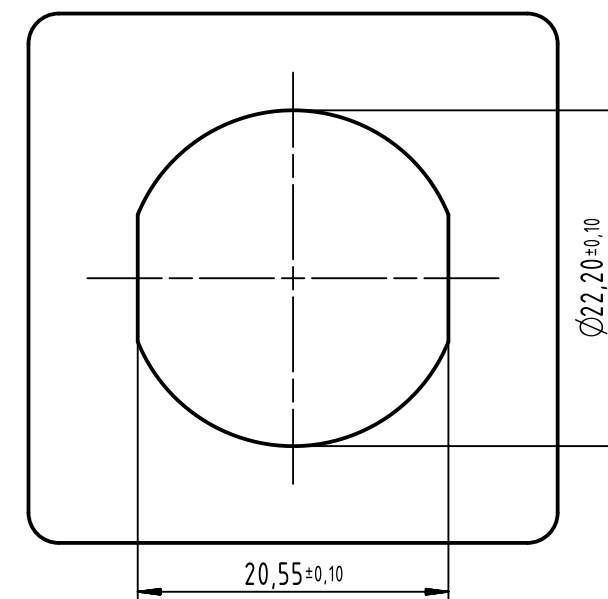
CONTACT MATERIAL

Contact material	Copper alloy
Plating termination zone	Tin
Plating contact sliding side	Gold

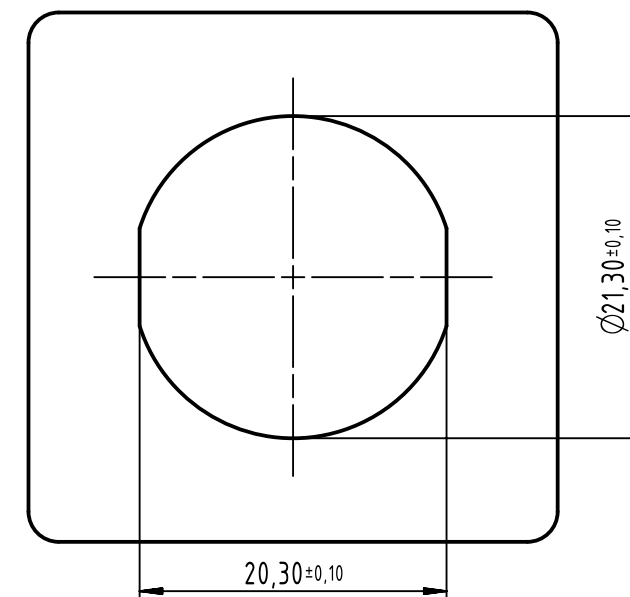
SHIELDING MATERIAL

Shielding material	Copper alloy
Plating	Tin

Recommended Panel cut out



Front mounting use
Detail see drawing 21033012006



Rear mounting use
Detail see drawing 21033012007



All Dimensions in mm
Original Size DIN A3

Scale
1:1

Free size tol.

Ref.

Sub.



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Department EL PD

HARTING

D-32339 Espelkamp

Created by
402664

Inspected by
ZENGO

Standardisation
302077

Date
2021-03-15

State
Final Release

Title
M12 transformer receptacles D-coded straight, SMT

Doc-Key / ECM-Nr.
100720894/UGD/001/E
500000191093

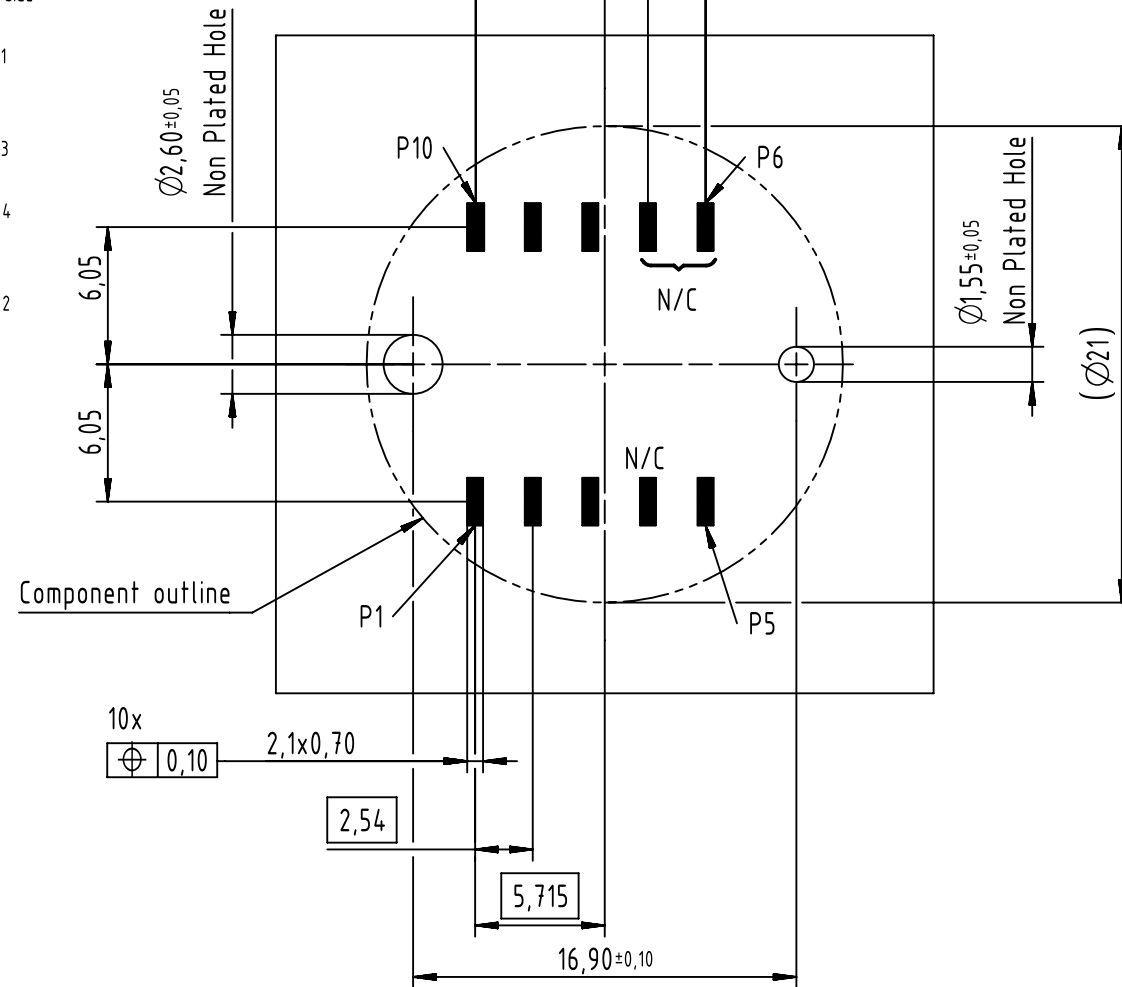
Type
DS

Number
21033810101

Rev.
E

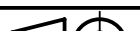
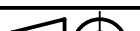
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Schematic



Parameter	Specification/ Limit Values
Operating Temperature	-40°C - +85°C
Turn Ratio (+/- 2%)	1CT : 1CT
OCL	min 350pH @ 100KHz , 100mV with 8mA bias current
Isolation (Input- Output)	2.25kV VDC , for 60sec. min
	$f \leq 100\text{MHz}$
Insertion Loss	1.3 dB
Return Loss	9 dB
Crosstalk	30 dB
CMRR	30 dB
CDMR	30 dB

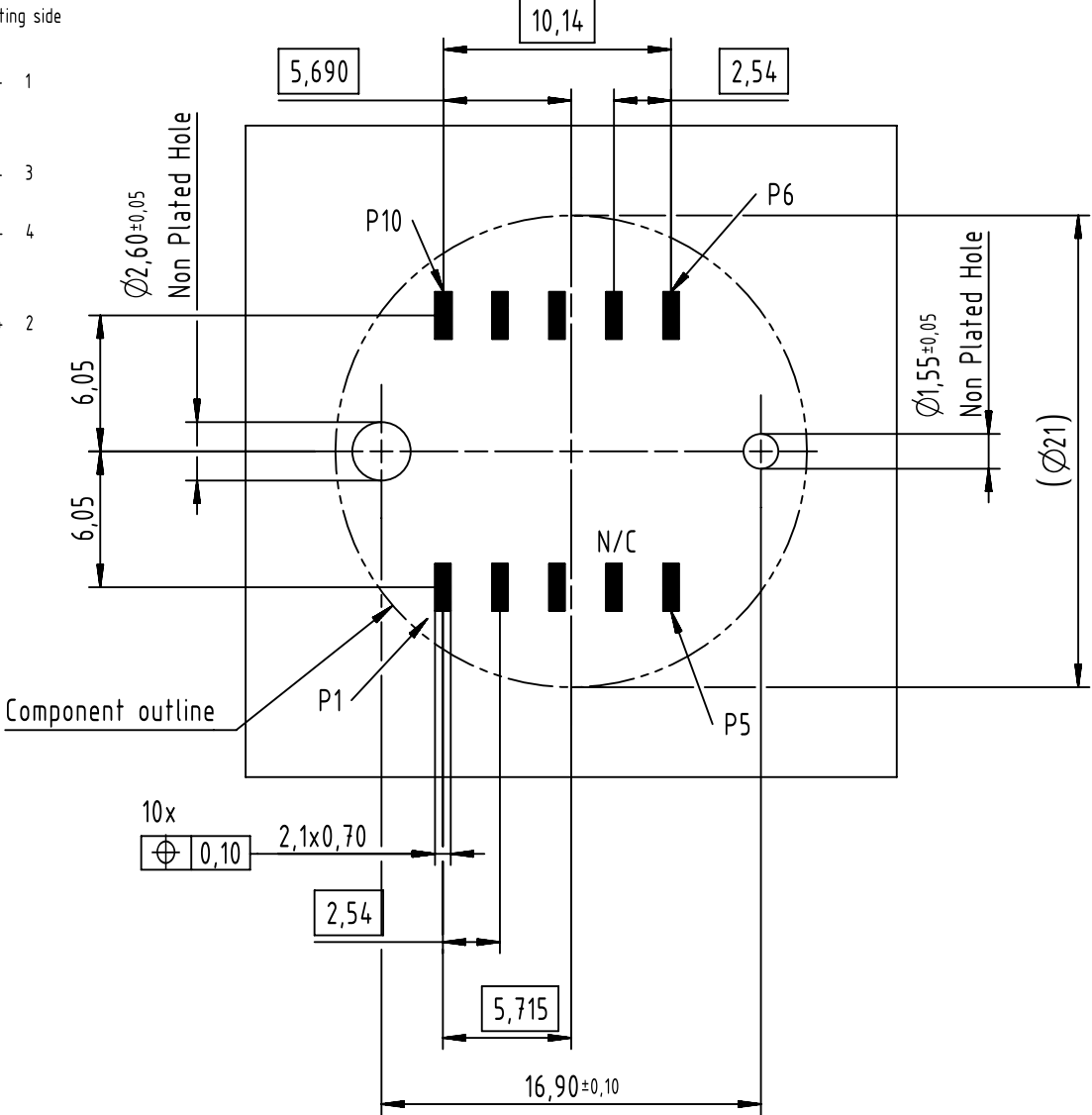
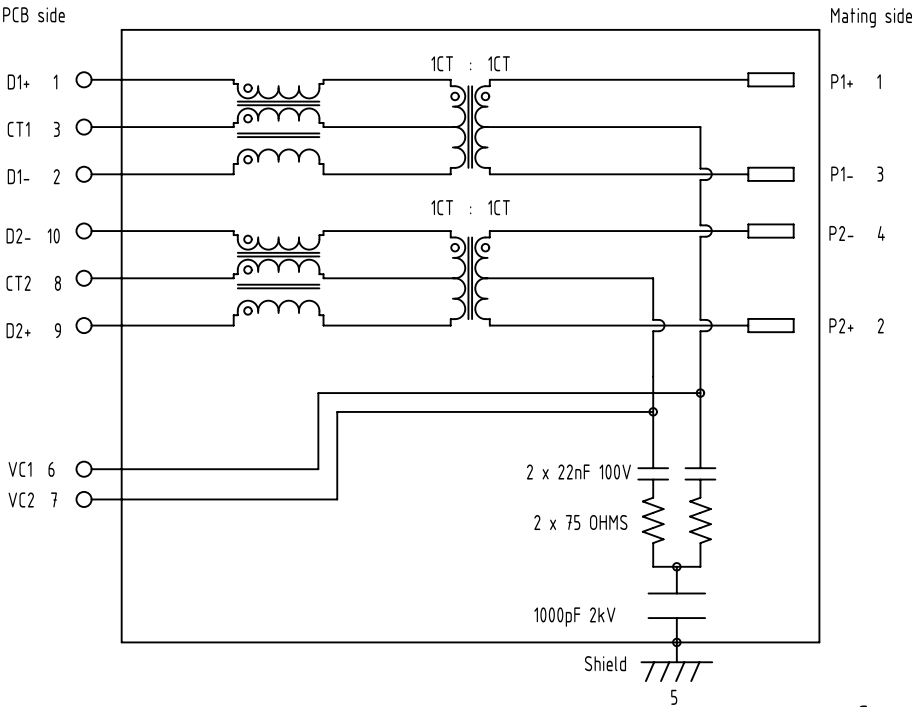
2. The Product has been tested for DC isolation. HARTING assumes no liability or obligation for AC isolation testing.

		All Dimensions in mm Original Size DIN A3		Scale 1:1		Free size tol.		Ref.	
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Department EL PD		Title M12 transformer receptacles D-coded straight, SMT		Date 2021-03-15		State Final Release		Doc-Key / ECM-Nr. 100720894/UGD/001/E 500000191093	
HARTING D-32339 Espelkamp		Type DS		Number 21033810101		Rev. E		Page 2/4	

Schematic

Recommended PCB Layout

Electrical Characteristics @+25°C unless otherwise noted
Meets IEEE802.3 specification
RoHS compliant



Parameter	Specification/ Limit Values
Operating Temperature	-40°C - +85°C
Turn Ratio (+/- 2%)	1CT : 1CT
Current Capacity Pins 1-8/ VC1-VC4	750mA DC
OCL	min 350µH @ 100KHz , 100mV with 8mA bias current
Isolation (Input- Output)	2.25kV VDC , for 60sec. min
	f ≤ 100MHz
Insertion Loss	1.3 dB
Return Loss	9 dB
Crosstalk	30 dB
CMRR	30 dB
CDMR	30 dB

NOTE: 1. f is the frequency in MHz
2. The Product has been tested for DC isolation. HARTING assumes no liability or obligation for AC isolation testing.

For D-coded with PoE+ version only
N/C: leave all pins floating. Do not connect to any of the pins to any net

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HARTING D-32339 Espelkamp			Type DS									Number 21033810101		

TAPE LAYOUT & PACKAGING

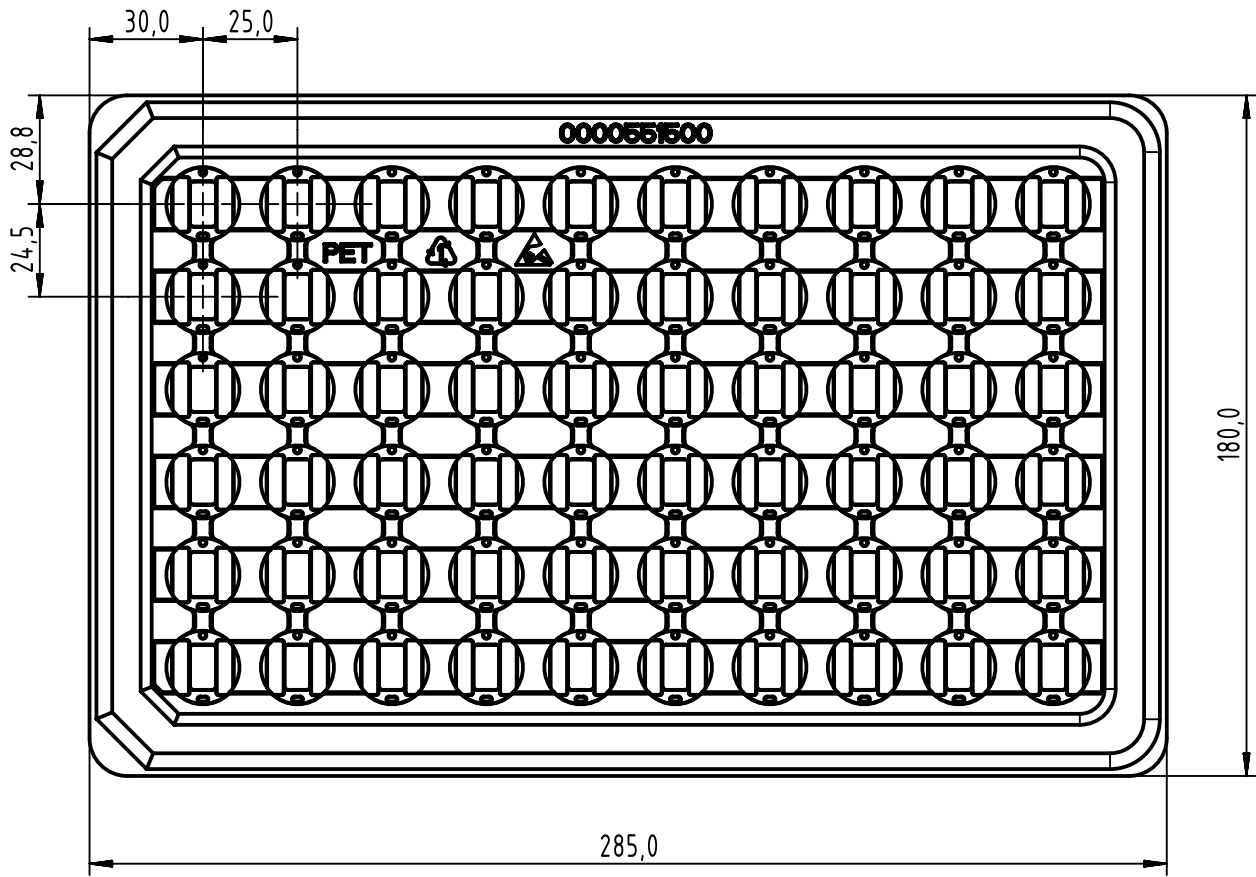
RECOMMENDATION FOR SOLDER PROCESSING

1. PCB pad plating
The M12 transformer receptacle connectors are solderable on lead-free pad surfaces like HAL,NiAu,Immersion Sn.

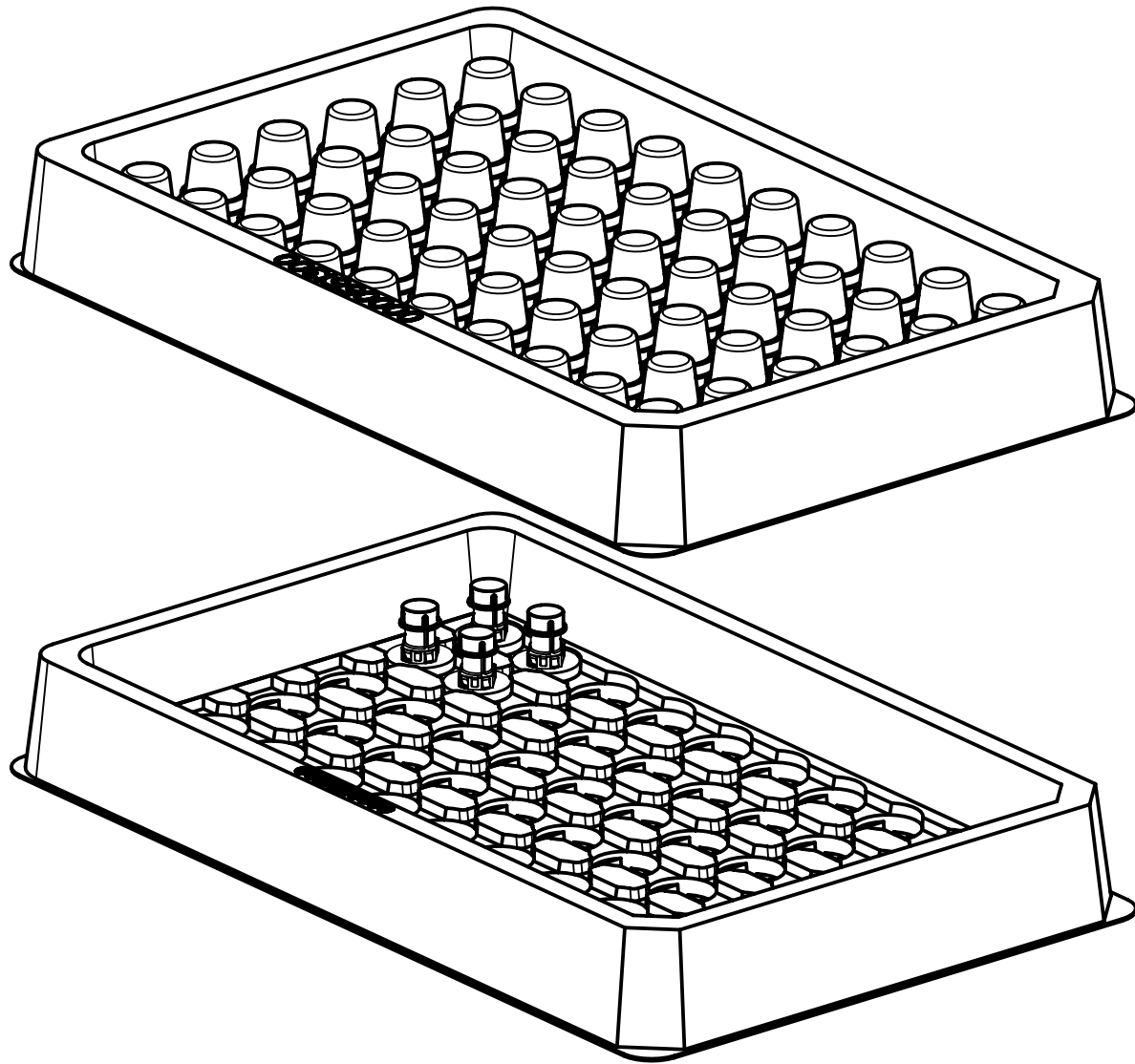
2. Stencil recommendation
The size of the solder stencil apertures is depending on the thickness of the stencil.
In general, thinner stencils will need larger apertures to result in the required volume of solder paste.
The minimum required solder paste volume for the signal pins is 0,160mm³,For example, this can be achieved with the following stencil data :

Single pin			
Stencil thickness	PCB pad size	proposal stencil aperture size	calculated solder paste volume
120 µm	2,1 x 0,7 mm	2,05 x 0,65 mm	0,160 mm³

HARD TRAY LAYOUT & PACKAGING



APPLICATION INFORMATION



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								Sub.							
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HARTING:

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