

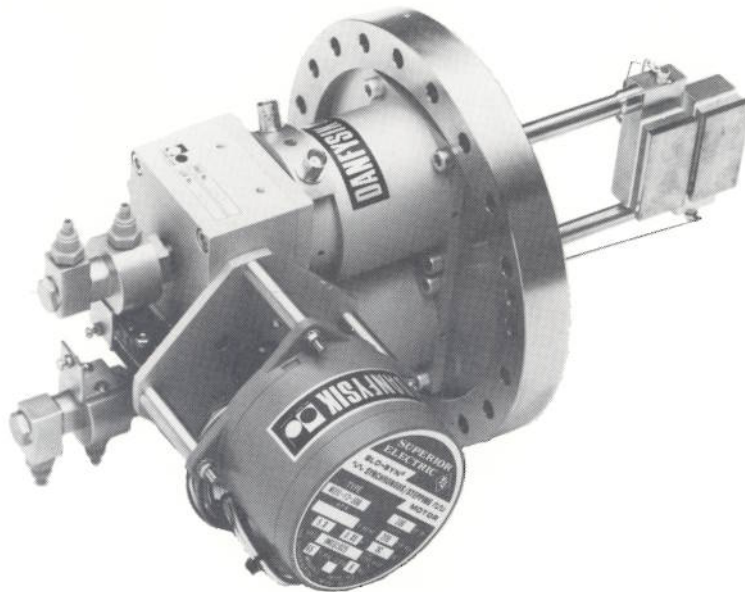


MANUAL

Water Cooled Slit 563 System 5000

Water Cooled Slit 563

SYSTEM 5000



FEATURES:

- Precise and stable mechanical alignment and symmetry
- Easy and reproduceable adjustment
- Withstands 1000 W beam power
- Computer controllable (e.g. via CAMAC interface)
- Slit width adjustable to an accuracy of 0.04 mm
- Angular encoder readout (optional)

GENERAL DESCRIPTION:

In the DANFYSIK WATER COOLED SLIT 563⁽¹⁾ the water cooled mounting blocks for the slit jaws are mounted on coaxial tubular supporting rods which are also used for feeding cooling water to the blocks. The blocks are electrically insulated from the jaws by BeO spacers. The jaws are individually connectors to BNC receptables.

Sleeves welded to the outer tubes move the mounting rods axially via a worm gear. Vacuum sealing between the moving rods and the base flange is obtained by means of

flexible stainless steel bellows.

Rotation of the worm gear moves the slit jaws in opposite directions to each other and the center line between the slit edges stays fixed. However, the center line can be adjusted manually by turning the worm wheels when the worm shaft is demounted.

Setting and adjustment of the slit width is remotely controlled via a stepping motor driving the worm gear, which can be coupled to an electrical decoder giving accurate remote indication of the width.

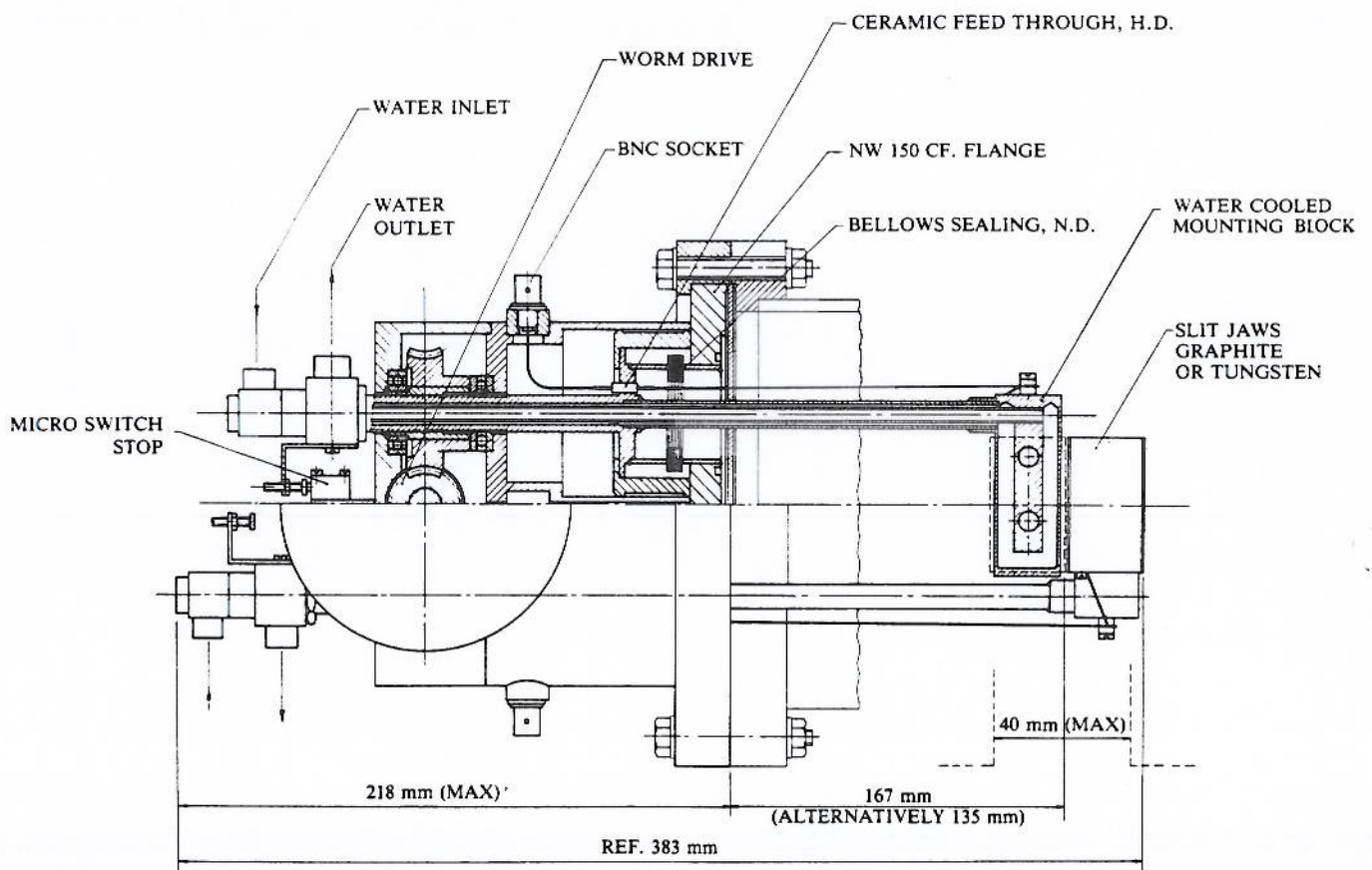
⁽¹⁾ Licensed from Hahn-Meitner-Institute, Berlin.

Water Cooled Slit 563

SPECIFICATION:

Min. slit opening:	0 + 0.1 mm
Max. slit opening:	35 + 0.1 mm
Min. increment in adjustment:	0.04 mm
Accuracy of setting:	0.1 mm
Center line changeable in steps of:	0.07 mm
Max. allowable beam power dissipation:	1000 W
Flange:	NW 150 CF

Standard jaws are made of Tungsten. For higher energies, high density graphite can be offered to limit permanent activation.



DANFYSIK can also offer you:

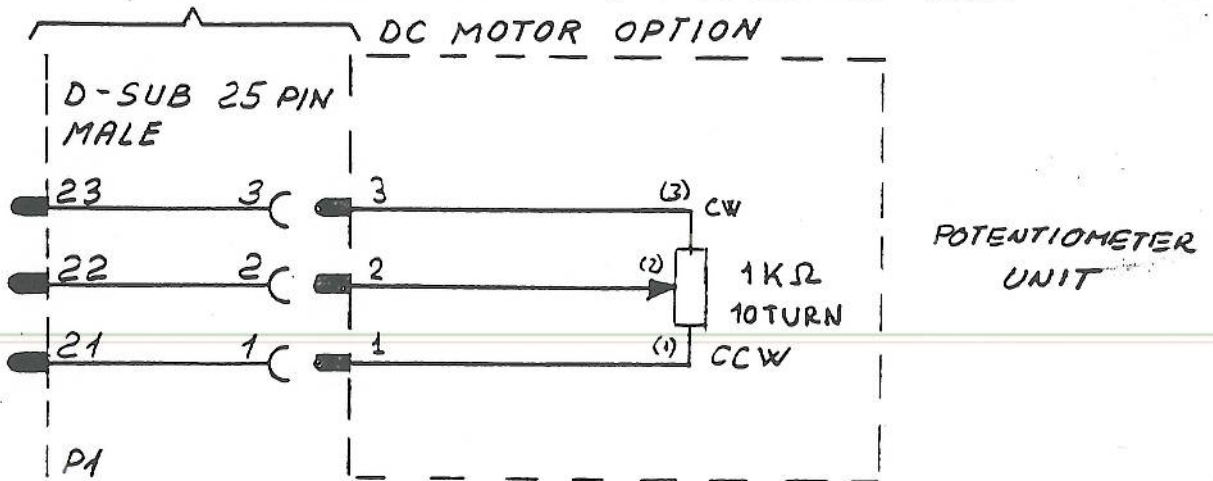
COMPLETE BEAM LINE SYSTEMS covering MAGNETS • MAGNET POWER SUPPLIES
• DIGITAL CONTROL EQUIPMENT • COMPUTER INTERFACE EQUIPMENT

DANFYSIK A/S • DK-4040 JYLLINGE • DENMARK

TEL. NATIONAL (02) 38 81 50 • TEL. INTERNATIONAL +45 238 81 50 • TELEX: 43 136 ISOTOP
CABLE: DANFYSIK, ROSKILDE

OPTION P FOR SLIT UNIT 563

CONNECTION WHEN DELIVERED TOGETHER WITH

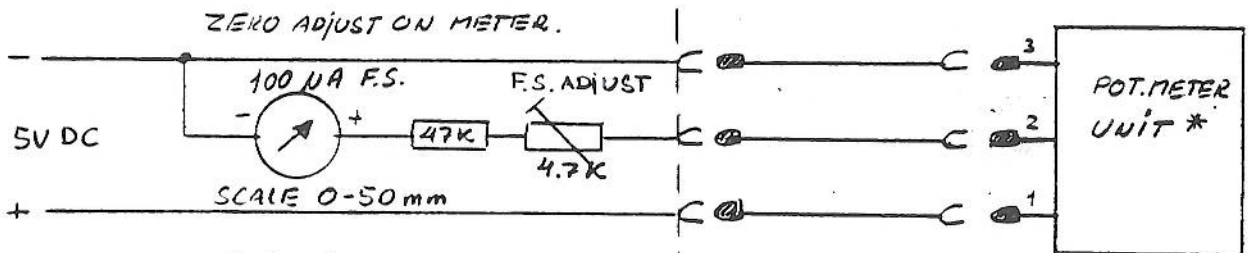


PA
REF. DWG.
51997A

POTMETER: CW = SLIT CLOSSES
CCW = SLIT OPENS

AN OPENING OF THE SLIT TO 10mm
GIVES 2 TURNS ON THE POTMETER, I.E. 0,2 TURN/mm


TYPICAL APPLICATION: (1VOLT/10mm)



MAX. NONLINEARITY CAUSED BY METER LOAD ~ 5%

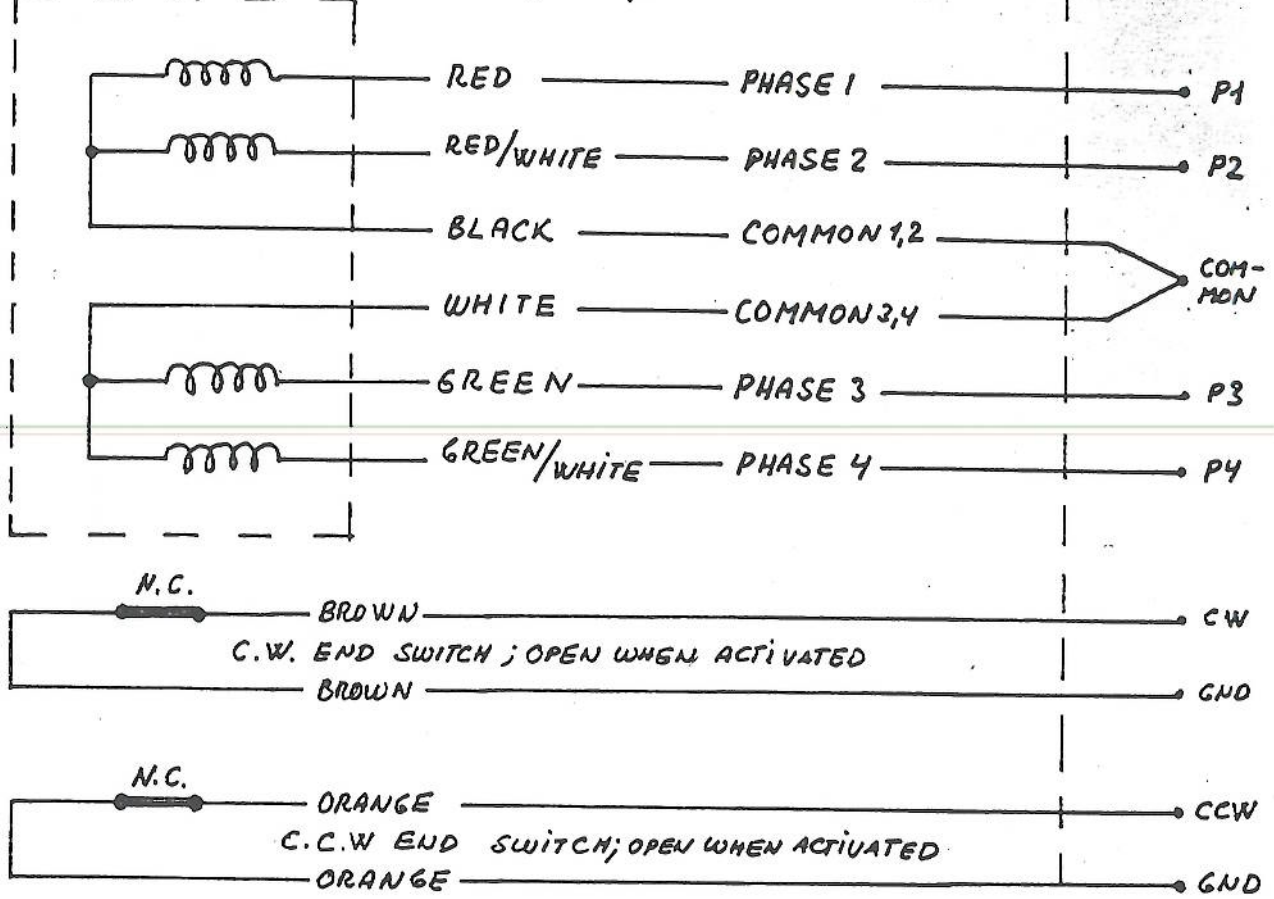
ALTERNATIVELY USE D.V.M. FOR READ OUT.

* MOUNTED ON
SLIT UNIT.

NO.	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.		
REV. A: 26.2.85 AC / B: 15.4.86 AC /							
MACHINING:		SURF. TREATMENT:					
TOLERANCE:		POTENTIOMETER-UNIT FOR WATER COOLED SLIT DF 563 SYSTEM 5000					
SCALE:							
 DANFYSIK JYLLINGE-DENMARK						DRAWN BY PA 30/10-81	
						DESIGN APP. --	
		PROD. APP.					
		PROJ. ENGR.					
		SUPERSEDING					
		DWG.		51109B			
		SUPERSEDED BY					



SLO-SYN M091 - FD - 308 ; 8V/0.85A PER PHASE



C.W. ROTATION ⇒ SLIT OPENS

C.C.W. ROTATION ⇒ SLIT CLOSSES

STEP SEQUENCE FOR C.W. ROTATION (1.8°/STEP):
(AS VIEWED AGAINST SHAFT END OF MOTOR)

CONNECTION
TO STEPPING
MOTOR RESIS-
TOR UNIT —
DF 573 OR
DIRECTLY
TO DRIVER

STEP	P1	P2	P2	P4
1	ON	OFF	ON	OFF
2	OFF	ON	ON	OFF
3	OFF	ON	OFF	ON
4	ON	OFF	OFF	ON

NO.	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
-----	------	----------	-----	----------	----------

REV. A: 15. 4. 86 AC1

MACHINING: SURF. TREATMENT:

TOLERANCE: DRAWN BY 6/8-80 PA

SCALE: DESIGN APP.

PROD. APP.

PROJ. ENGR.

SUPERSEDING
DWG. 51112A
SUPERSEDED BY

CONTROL CONNECTIONS
WATER COOLED SLIT DF 563
STEPPING MOTOR
SYSTEM 5000

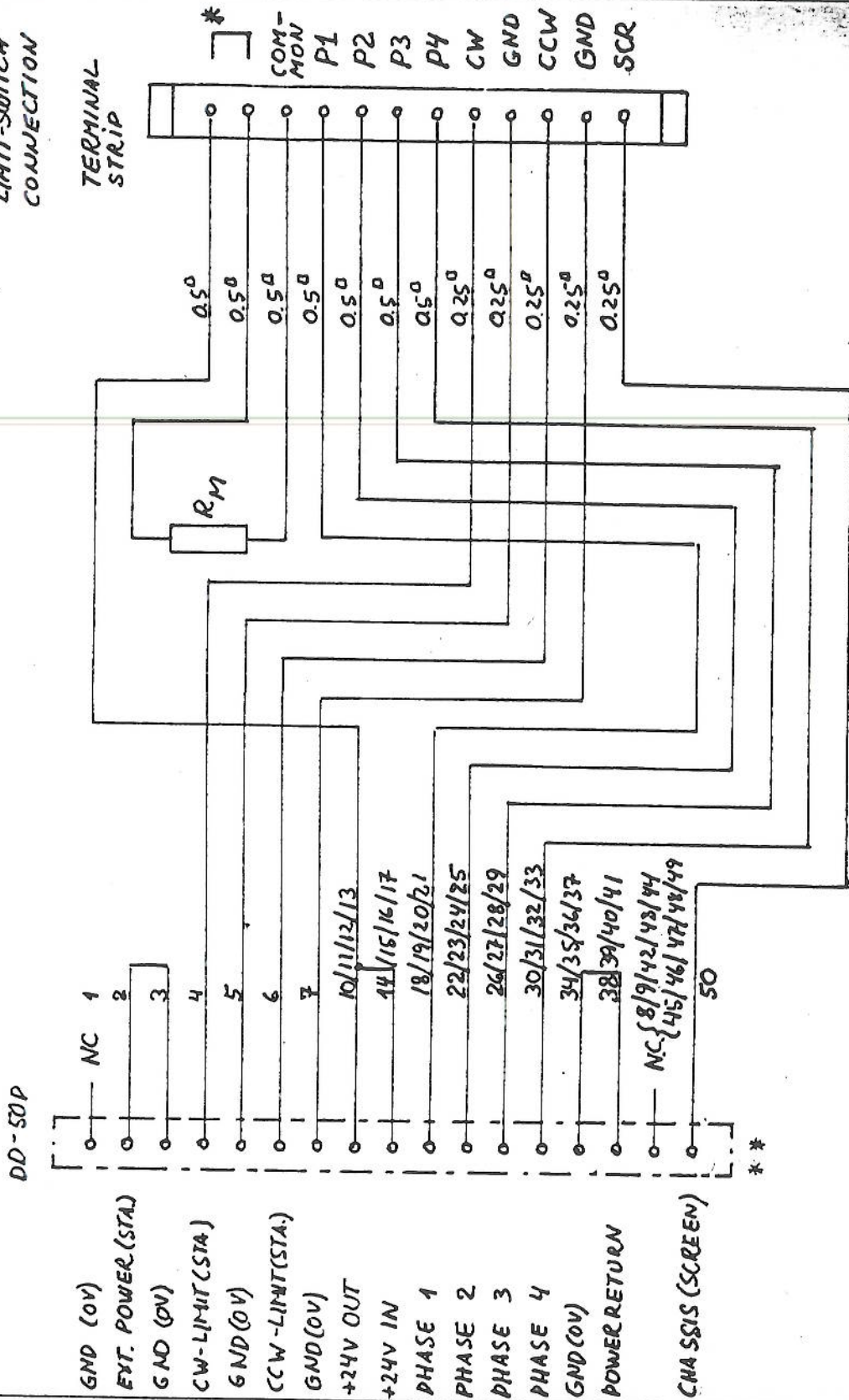


3237 J & K. Disprint 01-54 44 72

16047

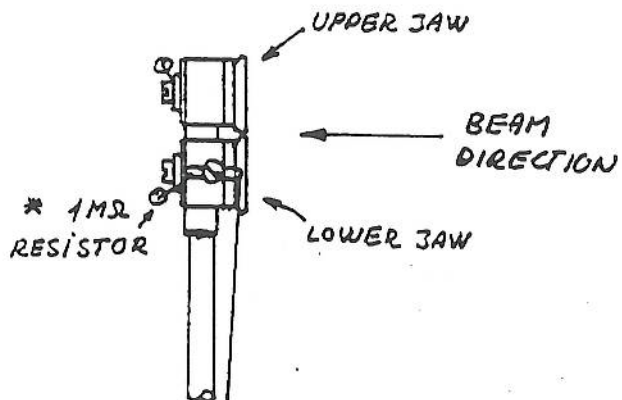
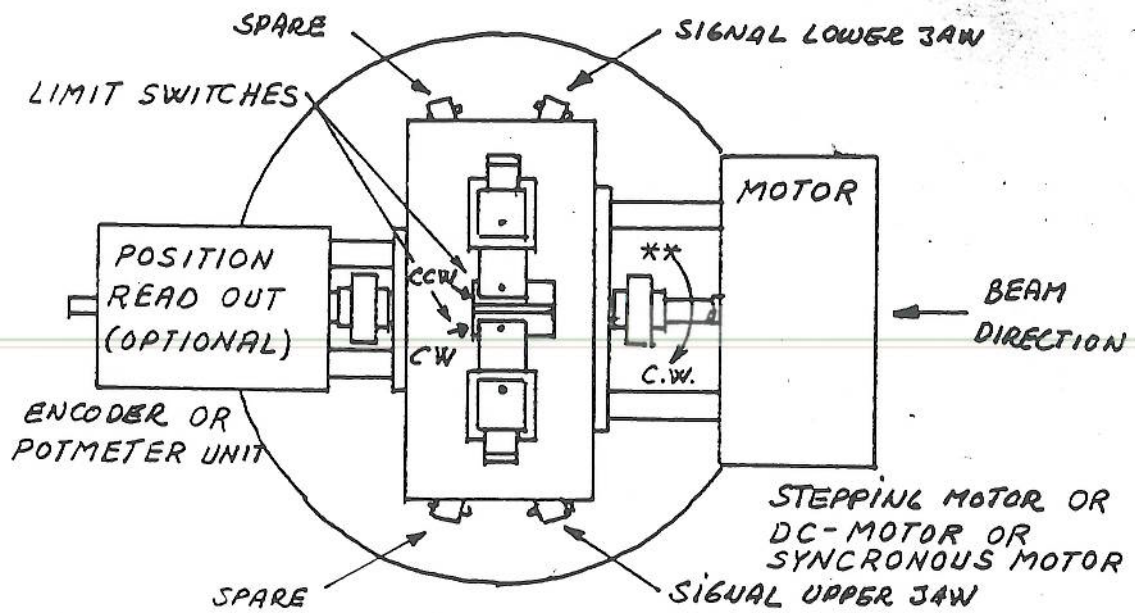
CONNECTION TO CAMAC
STEPPING MOTOR CONTROLLER SMC
50 PIN CANNON MALE

R_M : CURRENT LIMITING RESISTOR, 10 Ω WHEN
USED FOR WATER COOLED SUT 563.
MOTOR &
LIMIT-SWITCH
CONNECTION



** DISCONNECT PINS 21, 25, 29 AND 33 IF USED WITH JOERGER SMC-L
** A CURRENT-METER CAN BE INSERTED TO CHECK MOTOR-CURRENT = 2 x I_{PHASE}.

NO.	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
REV. A (SMC-L)					
MACHINING:			SURF. TREATMENT:		
TOLERANCE:		STEPPING MOTOR RESISTOR UNIT TYPE 573 SCHEMATIC			
SCALE:					
 DANFYSIK JYLLINGE-DENMARK		DRAWN BY		4/8-80 PA	
		DESIGN APP.			
		PROD. APP.			
		PROJ. ENGR.			
		SUPERSEDING			
		DWG.		51110A	
		SUPERSEDED BY			
		SYSTEM 5000			



* A 1 MΩ RESISTOR CONNECTS THE JAW TO GROUND.

USED FOR CHECKING PURPOSES.

** ROTATION AS VIEWED AGAINST SHAFT END OF MOTOR
 C.W. ⇒ SLIT OPENS; C.C.W. ⇒ SLIT CLOSSES

NO.	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
-----	------	----------	-----	----------	----------

REV. A: 15. 4. 86 AC/

MACHINING:

SURF. TREATMENT:

TOLERANCE:

SIGNAL CONNECTIONS

DRAWN BY 7/8-80 PA

SCALE:

WATER COOLED SLIT DF 563

DESIGN APP.

PROD. APP.

PROJ. ENGR.

SUPERSEDING

DWG.

SYSTEM 5000

51111A

SUPERSEDED BY

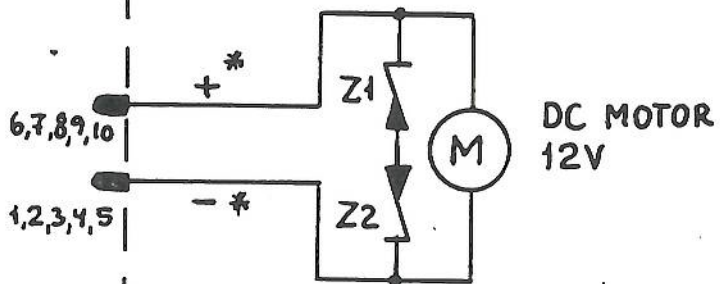
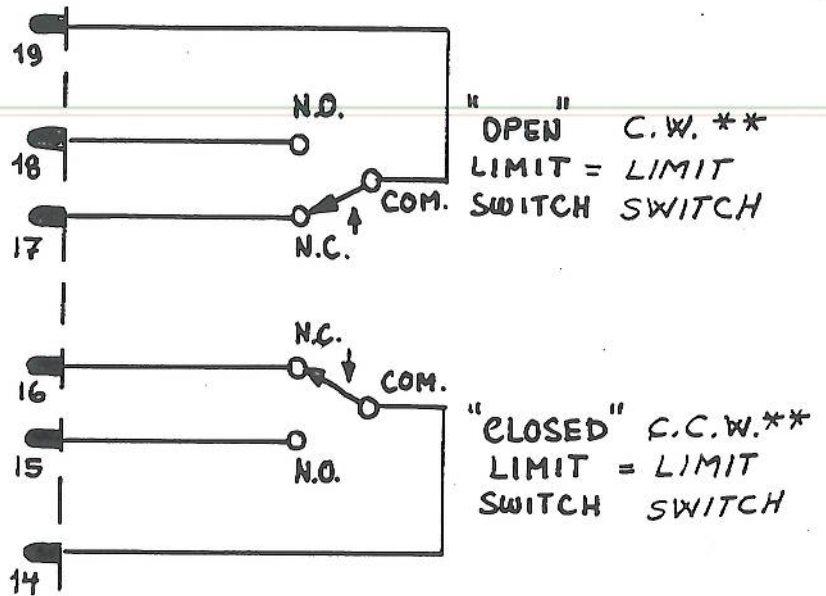
9230 J & K. Diaprint 01-54 44 22



M
16046

D-Sub 25pin MALE
WITH LOCK NUTS.

P1



** ROTATION AS VIEWED AGAINST SHAFT-
END OF MOTOR

* POLARITY SHOWN WILL
OPEN SLIT

Z1 & Z2 16V ZENERS, 3W

NO.	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
-----	------	----------	-----	----------	----------

REV. A: 15.4.86 AC/

MACHINING:	SURF. TREATMENT:
------------	------------------

TOLERANCE:

SCALE:



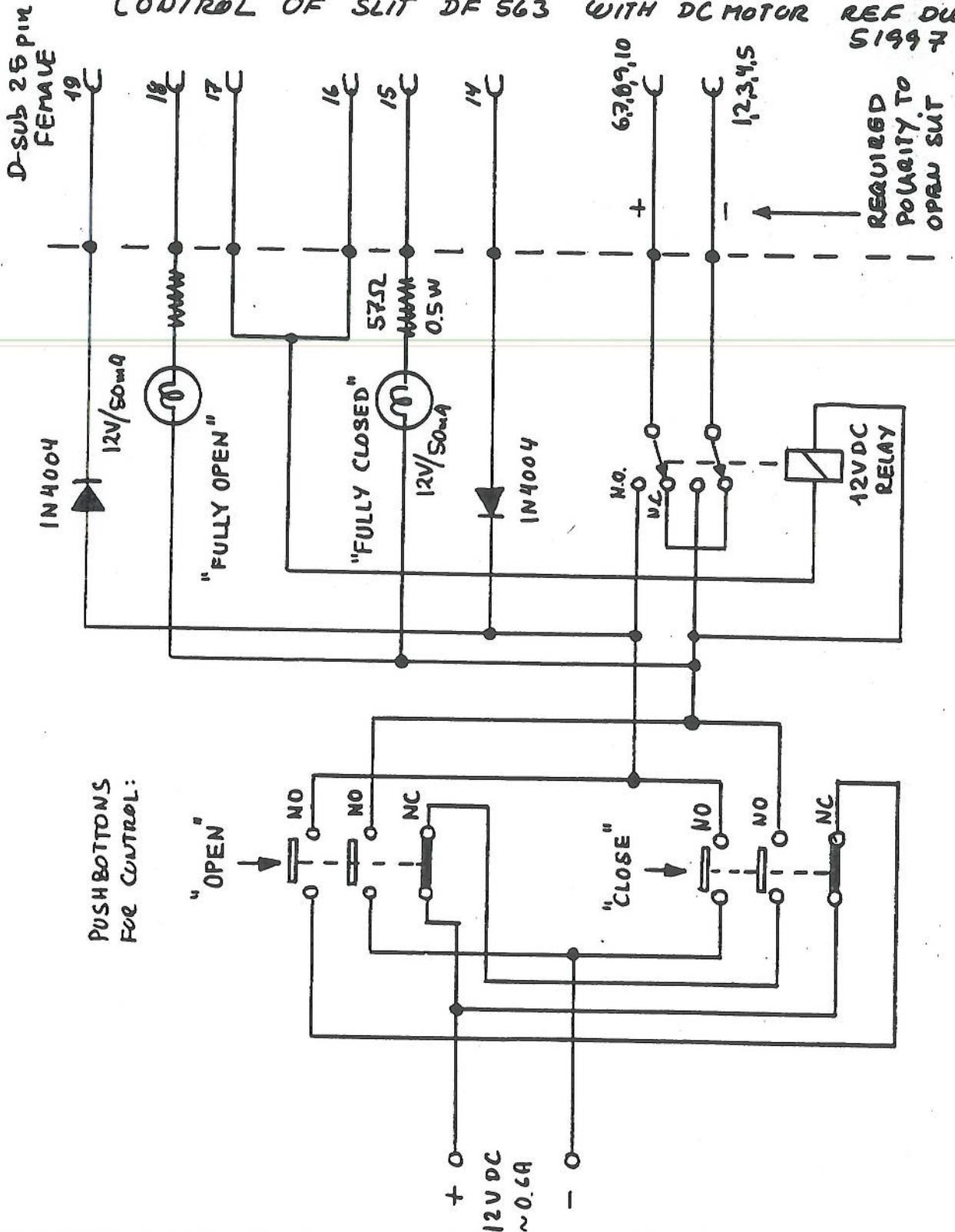
CONTROL CONNECTIONS
WATERCOOLED SLIT DF 563
D.C. MOTOR
SYSTEM 5000

CUSTM. ORDER NO.

DRAWN BY PA 24/8-84
DESIGN APP.
PROD. APP.
PROJ. ENGR.
SUPERSEDING
DWG. 51997A
SUPERSEDED BY

FIRST ANGLE PROJECTION
16 G 93
606 J & K. Daprint 01-54 44 22

CONTROL OF SLIT DF 563 WITH DC MOTOR REF DWG 51997



NO.	ITEM	MATERIAL	QTY	ITEM NO.	DWG. NO.
-----	------	----------	-----	----------	----------

REV.

MACHINING: SURF. TREATMENT:

TOLERANCE:

SCALE:

16 G 94



TYPICAL CONTROL CIRCUIT
FOR DC MOTOR OPTION
WATER COOLED SLIT DF 563
SYSTEM 5000
CUSTM. ORDER NO.

DRAWN BY OA 24/8-EM
DESIGN APP.
PROD. APP.
PROJ. ENGR.
SUPERSEDING
DWG. 51998
SUPERSEDED BY

FIRST ANGLE PROJECTION

2306 J & K. Drawn 01-54 44 22