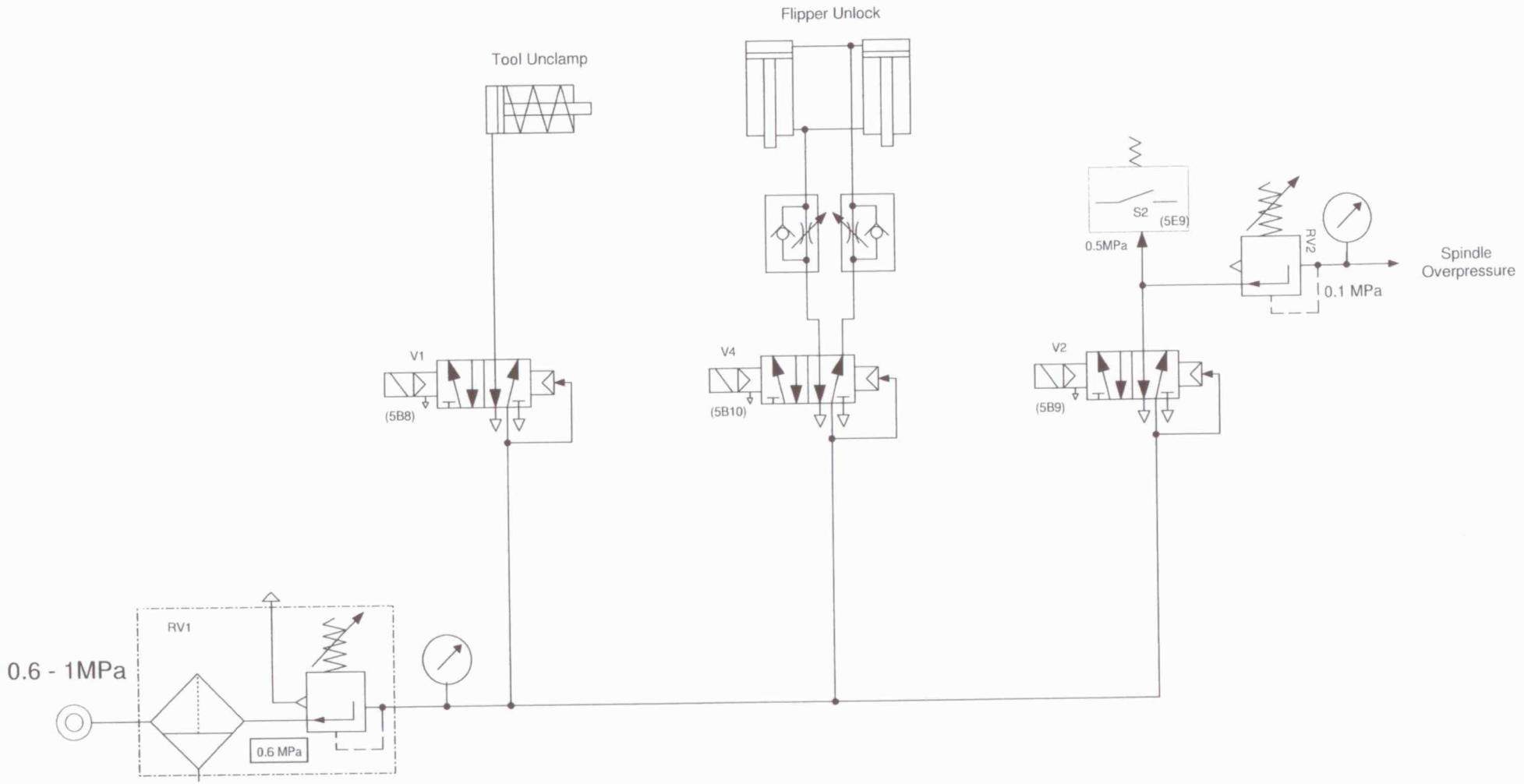


1 MPa = 10 Bar

Modifications			Date	Name
Date	Name	Draw	11.10.05	Guiot
		Check	12.10.05	MG/JK
		Norm		
		Filename:	p:\precimill\zeichnungen\elektrisch\maschine m4.spl	

Title

Machine M4 - Pneumatic

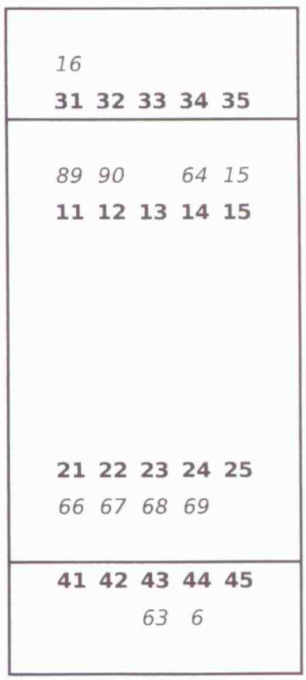
Drawing Nr.:

01-01-50-110

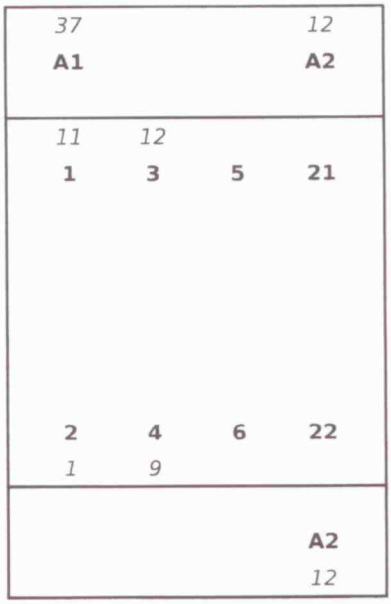
Connection of parts DCS Precimill M4

Italic = cable number, **Bold = connector number**

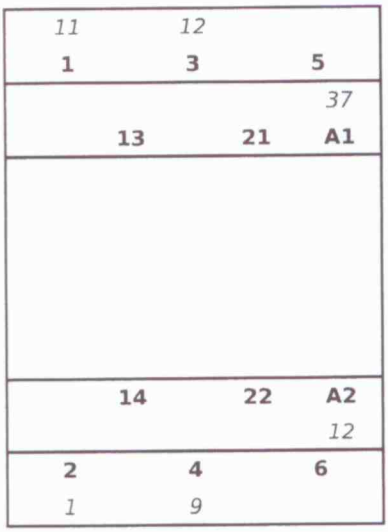
G1 (old)



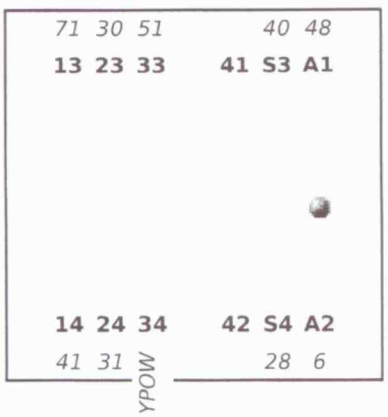
K4 (old)



K4 (new)

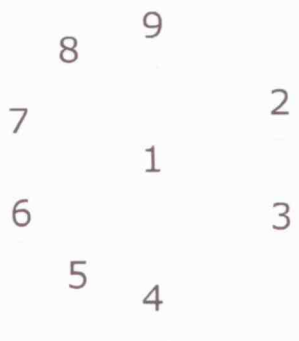


K3 (old)



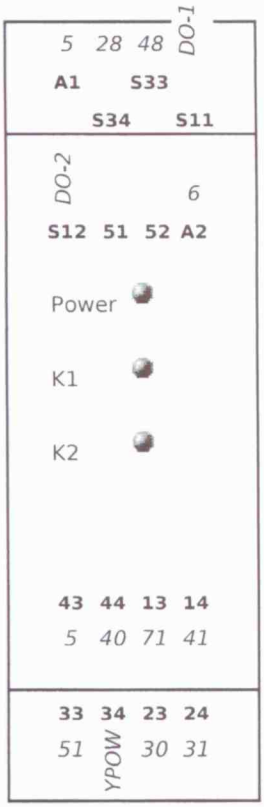
YPOW Yellow Piece'o Wire

HF-Spindle

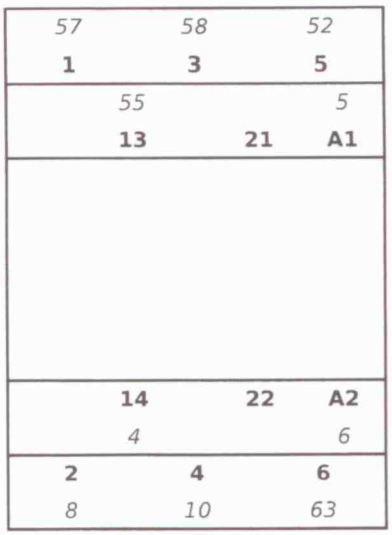


1 Phase U
2 Phase V
3 Phase W
4 Signal GND
5 Number of Poles (not used)
6 Hall Switch (6p/rotation) (n.u)
7 Speed Limitation (n.u)
8 PTC Resistor
9 Case Ground

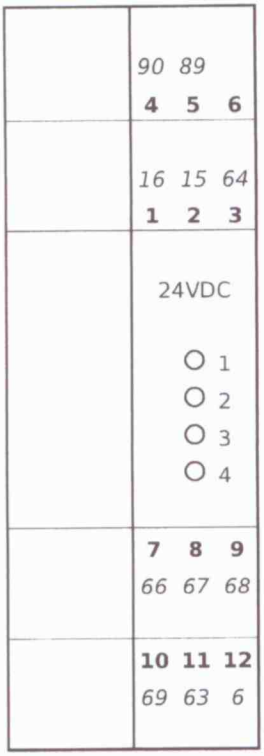
K3 (new)



K1 (new)

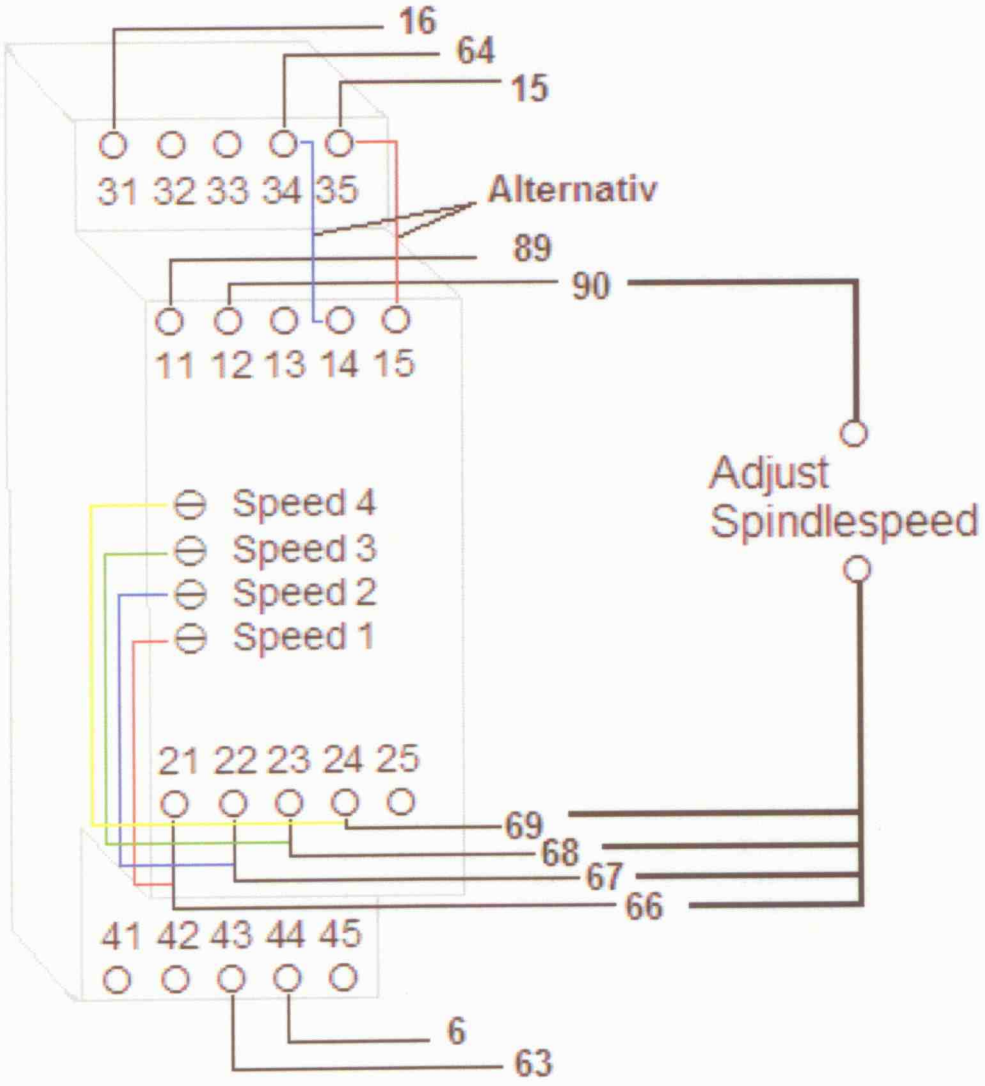


G1 (new)



DO-1 Door switch contact 1 (white)
DO-2 Door switch contact 2 (blue)
YPOW Yellow Piece'o Wire

Connections G1 (24V-Powersupply)
M3 / M4 System



Adjusting the Spindle speed

Attention never let the spindle run without a tool.

First check the tension without running the spindle. Then check and readjust the tension with running spindle.

SFU Typ: 21.49 (1V = 6'000 RPM) (start/stop 1s ≈ 6'000 RPM)

G1-Poti Nr.	Tension (VDC)	G1-old / new	Ca. rpm
1	2.15 (2.37)	12 - 21 / 4 - 7	~12'900
2	4.30 (4.65)	12 - 22 / 4 - 8	~25'800
3	6.45 (6.84)	12 - 23 / 4 - 9	~38'700
4	8.60 (8.85)	12 - 24 / 4 - 10	~51'600
4	7.50 (7.80)	12 - 24 / 4 - 10	~45'000

SFU Typ: 21.46 (1V = 10'000 RPM) (start/stop 1s ≈ 10'000 RPM)

G1-Poti Nr.	Tension (VDC)	G1-old / new	Ca. rpm
1	1.29	12 - 21 / 4 - 7	~12'900
2	2.58	12 - 22 / 4 - 8	~25'800
3	3.87	12 - 23 / 4 - 9	~38'700
4	5.16	12 - 24 / 4 - 10	~51'600
4	4.50	12 - 24 / 4 - 10	~45'000

Machine In- and Outputs

Press Key combination „ALT“ + „SCROLL“ (rollen) + 0-9 or A-F to call the function in DF_Fraes.
In some cases the Key „E“ will not be accepted. In this case Type “N”.

Output Bit No.	Function M3 Machine	Function M4 Machine	DB37 Pin
0	Coolant pump	Coolant pump	25
1	Spindle run (RSR)	Spindle run (RSR)	33
2	Automatic OFF	Automatic OFF	26
3	Machine ON	Machine ON	34
4	Automatic call	Automatic call	27
5	Speed 1	Speed 1	35
6	Speed 2	Speed 2	28
7	Speed 3	Speed 3	36
8	Speed 4	Speed 4	21
9			29
A	ATC back	Flipper switches override	22
B	ATC for	Flipper unlock	30
C	ATC rotate	ATC rotate	23
D	Tool unclamp	Tool unclamp	31
E	Face A	Face A	24
F	Face B	Face B	32
-	0V	0V	20
Input Bit No.			**DB37 Pin**
0	X+ L.S.	X+ L.S.	3
1	Y+ L.S.	Y+ L.S.	4
2	Z+ L.S.	Z+ L.S.	5
3	X- L.S.	X- L.S.	6
4	Y- L.S.	Y- L.S.	7
5	Z- L.S.	Z- L.S.	8
6	EMG stop	EMG stop	9
7	Flipper FB	Flipper FB	10
8	(Reset enable X)	(Reset enable X)	-
9	(Reset enable Y)	(Reset enable Y)	-
A	(Reset enable Z)	(Reset enable Z)	-
B	X Ref. L.S.	X Ref. L.S.	13
C	Y Ref. L.S.	Y Ref. L.S.	12
D	Z Ref. L.S.	Z Ref. L.S.	11
E	ATC FB	ATC FB	1
F	Tool length	Tool length	2
-	„+Vcc“	„+Vcc“	14

nõlemad sisse lülit. süs on laadimise asend.

C:\DF_FRAES > nf.

flipper positions.

testimine

C:\DF_FRAES > flip_tst

Wenderplatine M4

vom Schrank	rot	O	1			6	O	Rot	WW Motor
vom Schrank	grün	O	2			5	O	Schwarz	WW Motor
WW Ini	Schwarz	O	3			4	O	Gelb	Schrank
WW Ini	Blau	O	4	X1	X5	3	O	Grün	Schrank
WW Ini	Braun	O	5			2	O	Schwarz	Wendermotor
Messsensor	Schwarz	O	6			1	O	Rot	Wendermotor
Messsensor	Blau	O	7						
Messsensor	Braun	O	8						

Flipper Add-On

O	Schwarz	X4 /2	
O	Rot	X4 /3	
O	Blau	Ini Oben	
O	Braun	Ini Oben	
O	Schwarz	Ini Oben	
O	Blau	Ini Unten	
O	Braun	Ini Unten	
O	Schwarz	Ini Unten	

vom Schrank	Blau	O	1			8	O	Weiss	Schrank
2 FbHr	Schwarz	O	2			7	O	Blau	Add-On
2 FbHr	Rot	O	3			6	O		
2 FbHr	Grün	O	4	X2	X4	5	O	Schwarz	Schrank
2 FbHr	Gelb	O	5			4	O	Weiss	Schrank
2 FbHr	Blau	O	6			3	O	Rot	Add-On
vom Schrank	Grau	O	7			2	O	Schwarz	Add-On
vom Schrank	Lila	O	8		X3	1	O	Braun	Schrank

SFF Add-On

O
O
O
O
O
O
O
O

1	2	3	4	5	6	7	8
O	O	O	O	O	O	O	O
V1 Schwarz	Rot	Gelb	Braun	V2 Schwarz	Rot	V4 Schwarz	Rot
V1	V1	Schrank	Schrank und Add-On	V2	V2	V4	V4