



Wire Machinery Electrical Upgrades

Morgan-Koch Corporation will help you work through the options when considering an electrical system upgrade for your existing wire machinery. Some of the common goals our customers hope to achieve are to:

- Extend useful production life of the drawing machine
- Improve operating features and functions
- Increased machine reliability
- Eliminate time spent at set-up ‘tweaking’ outdated speed controls
- Lower operating costs by eliminating expensive and/or obsolete components
 - AC Converters/Inverters
 - DC Motors
 - Programmable controllers
 - Operator interface screens
 - Proprietary/Specialized machine control cards

Certain wire drawing machinery currently operating in your plant may be costing too much in high electrical component replacement costs or downtime due to poorly documented electronic speed control systems. Any machine that is mechanically in good shape and otherwise capable of meeting your quality requirements is a candidate for an electrical upgrade.

You can trust Morgan-Koch to provide you with a proven and straightforward solution to the problems you are facing. Any local electrical controls integrator can provide new components and even coordinated drive systems in well-built control cabinets. But what makes a series of motors and drives behave like a wire drawing machine? Do they understand why you may want to ‘short hole’ your machine and what they must do to support this? We already know the questions AND answers that are important to you.

Why are we the **BEST VALUE** for your machine upgrade project?

1. ***Standardized Components***: The Koch wire drawing machine control system is built around an off-the-shelf Siemens programmable controller. We have taken the extra step to incorporate all control functions into one PLC. Thousands of engineering hours have gone into the development of the Koch machine control software. We tailor our standard software to control your machine and therefore from the beginning you get a full-featured control system with color-graphic operator screen. We are not “starting from scratch.”

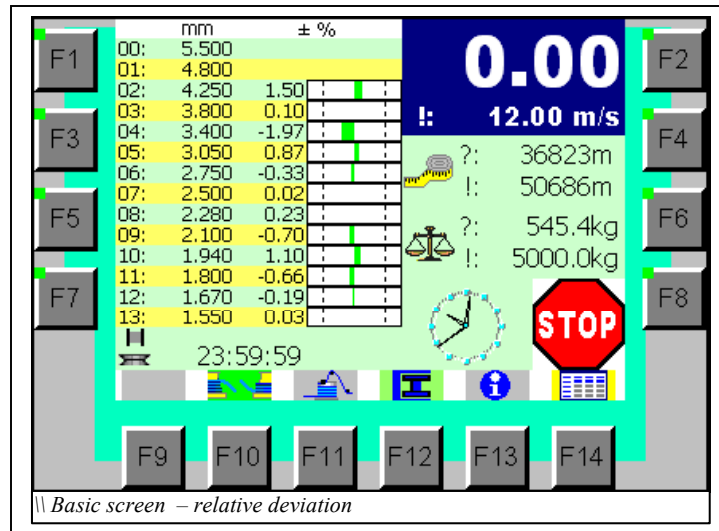


2. ***Efficient Engineering:*** Using traditional methods, a controls engineer will be forced to develop the motor speed control system using either special control hardware or advanced software features of each drive converter/inverter. Dancer control loops, speed ramps, jog speed-settings, features for skipping blocks, etc. must be programmed for each drive. In most cases this forces all of the drives to be of the same type to allow communication between the 'smart' drives. Our system brings all of this functionality into the PLC. The drives have the singular responsibility of following the speed signal the PLC provides. This makes configuring the system simpler and quicker as well as providing value when it comes to replacing drives.
3. ***Flexibility:*** Our system is flexible because we can use the PLC's discrete I/O to control just about any existing AC or DC drive you are already using. In the same system, we can use new Siemens Masterdrives or SINAMICS AC/AC drives using Profibus for control of the drive. This flexibility allows YOU to control cost of your project. In most cases, you can convert all of the motor drives to modern technology or only a few drives at a time as budgets allow.
4. ***Technology:*** The same basic Koch control system is proven on hundreds of drawing machines worldwide. The fully digital control system remains stable even when components are replaced. The same Koch machine control system provides a stable and robust control system for some of the most advanced drawing machines in the world.
5. ***Support:*** Our Worcester, Massachusetts based service department is staffed with full-time service engineers and spare parts sales staff. We stock a wide variety of spare parts for quick delivery - AND - technical assistance is just a phone call away.

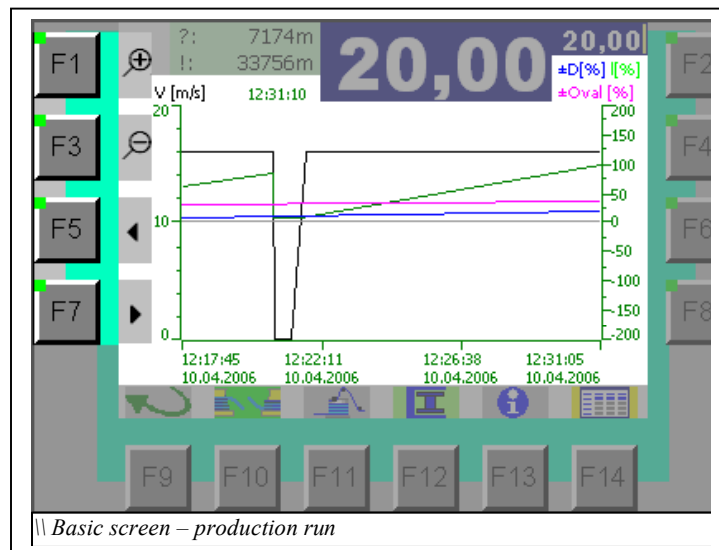


Our BASIC control interface includes the following – and much more!

Main Operating Screen



Machine Operating Speed History Graphic





Recipe Management for Standard Die Practices

	D [mm]	red [%]	[%]	±max [mm]
F1	00: 5.500			
	01: 4.800	23.83		
	02: 4.250	21.60	5.00	0.134
F3	03: 3.800	20.06	5.00	0.117
	04: 3.400	19.94	5.00	0.105
	05: 3.050	19.53	5.00	0.093
F5	06: 2.750	18.70	5.00	0.083
	07: 2.500	17.36	5.00	0.074
	08: 2.280	16.83	5.00	0.067
F7	09: 2.100	15.17	5.00	0.061
	10: 1.940	14.66	5.00	0.056
	11: 1.800	13.91	5.00	0.052

F9 F10 F11 F12 F13 F14

|| F14 \ F1 \ F10 Edit drawing sequence

Shift Based Operating History

F1	date:	18/04/2006	[dd/mm/yy]			
	time:	16:20:03	[hh:mm:ss]			
	shift	1	2	3	4	5
F3	monday	0600	1400	2200	2500	2500
	tuesday	0600	1400	2200	2500	2500
	wednesday	0600	1400	2200	2500	2500
F5	thursday	0600	1400	2200	2500	2500
	friday	0600	1400	2200	2500	2500
	saturday	0600	1400	2200	2500	2500
F7	sunday	0600	1400	2200	2500	2500
	read out:	Sunday			0600	

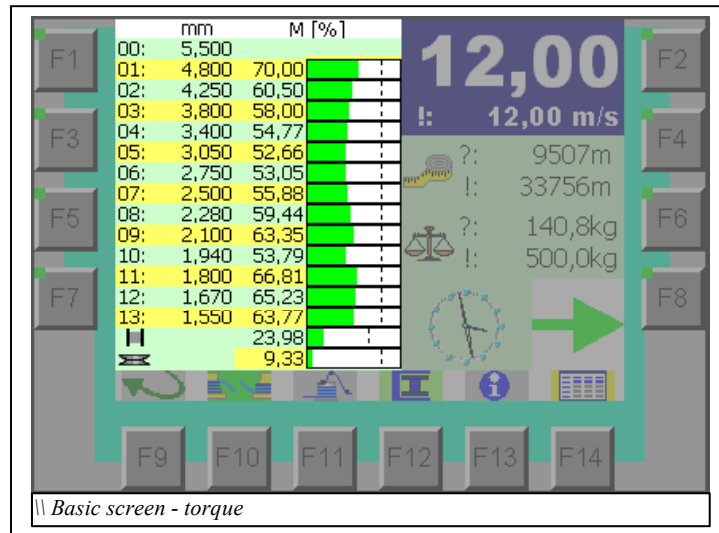
F9 F10 F11 F12 F13 F14



Fault Indications in Plain Text Statements

No.	Time	Date	Text
140000	11:49:40	19/04/2006	Connection established: PLC1, Station 2, Rack 0, Slot 2.
110001	11:49:36	19/04/2006	Change to operating mode 'online'.
70018	11:49:35	19/04/2006	Password list imported successfully.
70022	11:49:35	19/04/2006	Password list import started.

Motor Load Monitoring/Control



Contact: Darryl Burks
Morgan-Koch Corporation
Worcester, MA
Phone: (508) 793-1945
Email: darryl@morgan-koch.com