Technical News Bulletin

Steinhausen, March 2012

New FlexIS Stand Alone S4.0 – SEI, SETO and FlexPusher

– Modular and expandable, simple installation.
– Specific optimized motion profiles stored on the job file.
– Ethernet communication and remote access through internet.

Introduction

With the latest FlexIS cabinet design Emhart has added the Servo Elecric Invert (SEI) to the already available standalone's (FlexPusher and/or servo Take out)

Now any standalone configuration can be realized - Pusher (860 or FlexPusher), Servo Invert (SEI) and Servo Takeout (SETO) from 6 to 12 sections.

System Description

The Stand Alone Input 24VDC interfaced with opto-couplers are triggered by the timing system drum events

- Pusher start
- Invert ON (SEI)
- Revert ON (SEI)
- Takeout IN (SETO)
- Takeout OUT (SETO)
- Kickback (Optional)

User interface is a Computer display. In addition all 3 mechanisms have local disable switches and override switches per section and an overall E-Stop.

In the full configuration, 2 or 3 servomechanisms for up to 12 sections, the control includes:

- **Main Cabinet**, Controls and FlexPusher drives
- **Extension Cabinet**, SETO and SEI drives
- If only one servo-mechanism (FlexPusher or SEI or SETO) is required, the control cabinet is reduced to the main cabinet.

Hardware

In the Main Cabinet are located:
Section Controls, MS circuits and interface circuits on the back side of the left door,.

The power supply distribution is mounted on the top plate in the cabinet, with one 24 V power supply and a circuit breaker per section.
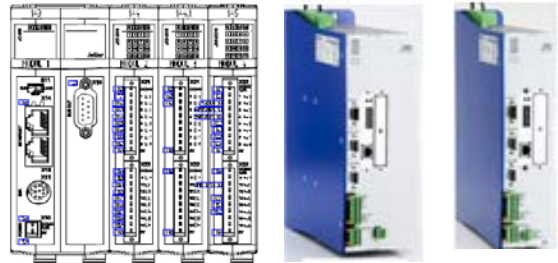
The Drives and the connectors for sections 1 to 6 and 7 to 12 are mounted on each one of the 2 plates in the cabinet.

The Section Controller includes:
- 1 CPU module
- 3 Expansion Input and Output modules

In the standalone control are used the same drives mounted in the FlexIS TS-E:
- Drive JM 215B-480-OEM-S1for SEI and SETO - PN 601-10719
- FlexPusher drive JM 204-480-OEM-S1 PN 601-10702

User Interface

The User Consol is a LCD touch screen display with function keys.

The UI is mounted near the machine in the Local Operator Station or it could be also installed on the front door of the standalone cabinet.

All servomechanisms setup can be accessed from the FlexIS home screen, by pressing the corresponding symbol on the working area.

Interfaces

The Stand Alone is interfaced with:

1. Timing system.
   Servo Invert (SEI) , Servo Takeout (SETO) and FlexPusher are section mechanisms, therefore the motion is part of the section cycle, the FlexIS stand alone receives from the Timing System the signals to synchronize the 3 servo mechanisms within the section cycle.
   The servo status is sent back to Timing System as interlock.

2. Blow side panel
   SETO and FlexPusher need additional control signals per section,
   - FlexPusher and SETO disable switches
   - SETO override switch., Take Out IN/Out
   The additional switches can be integrated into the existing BW panel or can be mounted in a separate panel.

3. Blank side panel
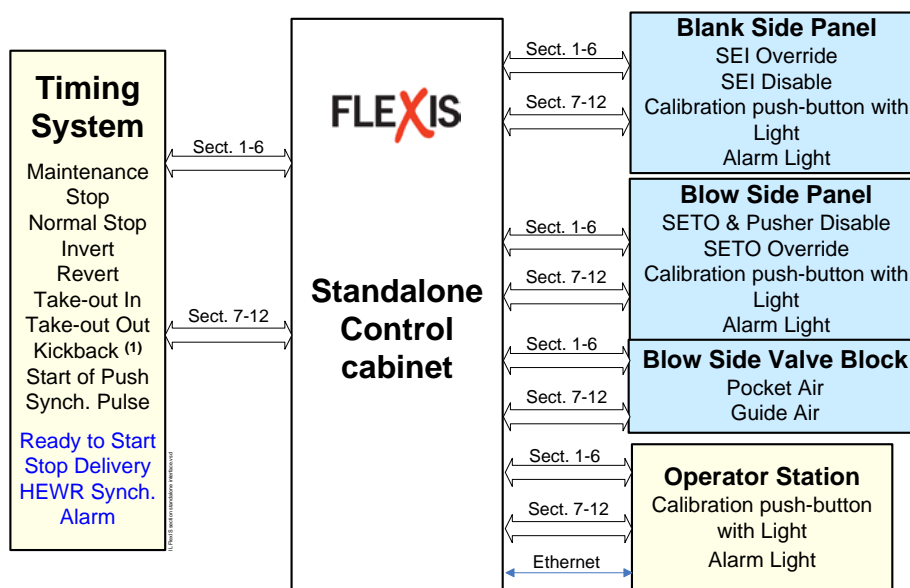   SEI needs additional control signals per section,
   - disable and override switches.
   These additional switches can be integrated in the existing BK panel or can be mounted in a separate panel.

4. Local Operator Station
   Movable box where, underneath the UC, the calibration push buttons/lights and alarm lights are installed.
   These can alternatively also be installed on Blow and Blank side panels. The UC can be mounted on the front RH door of the cabinet.
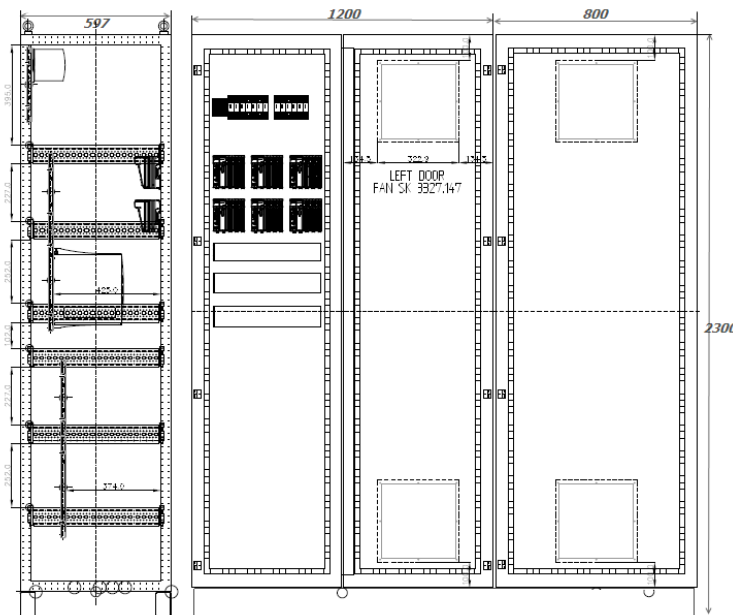

Stand Alone Interface Signals and cables connection

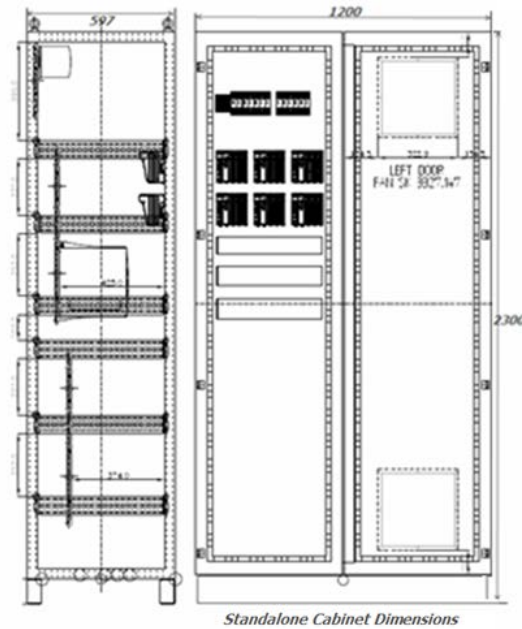| Cable Type	Emhart Reference	From	To
SEI Motor	601-39-xx	FlexIS Standalone Cabinet	Servo Motors
SETO Motor			
Flexpusher Motor			
SEI Resolver	601-40-xx		
SETO Resolver			
Flexpusher Resolver			
BK Panel	601-221-xx		Panels & Timing Sistem
BW Panel	601-222-xx		
Pusher Valves	601-223-xx		
TSI	601-224-xx		

Cabinet

FlexIS Standalone Control System Cables

Dimensions

Stand Alone Cabine dimentions

Full config. dimension 2000 mm X 600 mm X 2300 mm (With x Depth x Height)

Single Axis config. dimension 1200 mm X 600 mm X 2300 mm (Width x Depth x Height)

Installation Requirement

User Consol
Box Dimension (w x d x h)	500 x 230 x 500 mm
Carat Computer (w x d x h)	335 x 90 x 280 mm

Control Cabinet
Ambient Condition
Temperature	0-44°C
Humidity	10% - 80% (non condensing)
Protection Class	IP 23

Main Supply
Line Supply	3x400VAC -10% /+10%
Line Frequency	48-62 Hz
Line Fuse (to be provided by customer) 40 A	

Power Consumption

12 Sections all axis	15KVA
10 Sections all axis	13KVA
8 Sections all axis	10KVA
6 Sections all axis	8KVA

Typical heat dissipation

12 Sections all axis	2400 Watt
10 Sections all axis	2000 Watt
8 Sections all axis	1600 Watt
6 Sections all axis	1200 Watt

Drawings

601-10-22 Stand Alone Control System S4.0 – Electrical schematic

601-125   Interface Kit for T600 timing

Features / Benefits

Features	Benefits
Modular and expandable	Simple installation
Same parts as FlexIS TS-E	Specific optimized motion profiles stored on the job file
Ethernet communication and remote access through internet	Simple motion profiles adjustments