

Improving automated operation of a modern fairground attraction with a MT8150XE touch panel from WEINTEK

Context:

Mister B., the French owner of a new amusement ride, feels limited by its functionalities.

This ultimate thrill attraction consists of a set of spinning baskets. This set rotates itself around an axis. The basket angle is variable from upright-seating to upside-down positions.

The various motors are driven by an existing Koyo DL260 PLC.

The existing HMI was a simple panel with pushbuttons and lamps so flexibility is very limited.



Objectives:

The requirement is to be able to customize the automatic sequence, modifying it on a regular basis, and adapt it to the public.

Constraints:

The customer has the following constraints:

- Keep the existing PLC and its program, including all safety components, with no major change.
- Do not modify any input/output wiring.
- Create brand new monitor and control functionalities on a 15" touch panel.
- Use a simple ergonomic, intuitive HMI requiring almost no training.
- Communicate with DL260 PLC using RS-232 serial cable

Solution description:

Our French partner [Process Concept Automation](#)  offered a PLC program audit to integrate the new HMI to the existing system with no wiring modification.

Together we chose a touch panel MT8150XE from Weintek, with a 15" LCD TFT touch panel including over 250 communication drivers with KOYO, CTI...



- 1024x768 Resolution, LED backlight
- Slim design
- Fan-less Cooling System
- Built-in 256MB Flash Memory
- SD Card Slot for Extension of Storage
- One USB Host Port and one USB Client Port
- COM1 and COM3 RS-485 Built-in Isolation
- COM1 and COM3 RS-485 2W support MPI 187.5K, please use one at one time
- Built-in Power Isolator
- NEMA4/IP65 Compliant Front Panel

This panel is mounted in a small tailored electrical box fitted on the attraction sales counter and control center.

The touch panel allows:

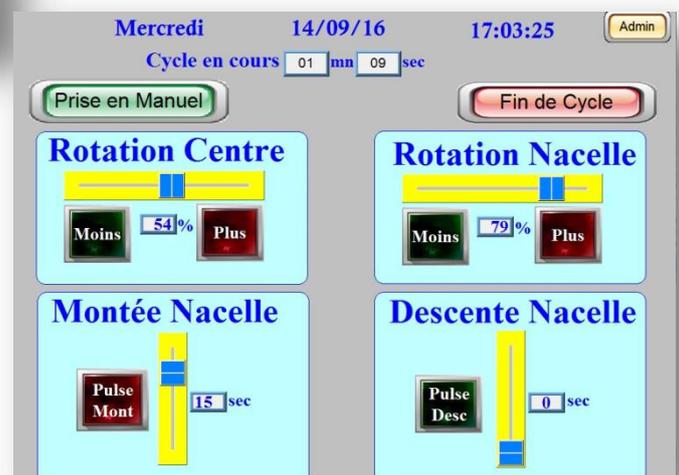
- Writing sequences in the form of recipes, specifying for each step the speed and angle setpoints, the basket rise and fall durations and the step duration. The complete sequence duration is indicated.
- Starting and monitoring the sequence, displaying the total timer and the current step timer.
- Switching to Manual mode at any time.

Stop		Prise en Manuel		14/09/16 17:09:19		Admin	
En cours		Lect SEQ		Sauv SEQ		Durée totale cycle	
07 mn 03 sec						02 mn 52 sec	
N°Etape	% Vitesse Centre	% Vitesse Nacelle	Nb sec Mont Nacelle	Nb sec Desc Nacelle	Durée étape sec		
1	20	20	0	0	12		
2	60	80	0	0	15		
3	100	100	0	0	10		
4	100	100	5	0	20		
5	100	100	15	0	20		
6	80	80	0	10	50		
7	100	100	15	0	30		
8	60	60	0	10	15		
9	0	0	0	0	0		
10	0	0	0	0	0		
11	0	0	0	0	0		

Switching to Manual mode, the operator can modify the speed and angle setpoints, the basket ascent and descent durations. A safety function stops the system if there are no manual changes after a preset number of minutes.

Mister B.:

“...Switching from our old panel to the new touch panel was easy. After less than one hour, my operator was feeling comfortable with our new system!”



Conclusion :

This Weintek touch panel solution allows adding control flexibility and ease of use without modifying the existing PLC system. So the attraction is even more attractive !

The various sequences bring new customers always looking for new sensations.



Manual control allows instant reaction of the operator when a little adrenalin boost seems required to satisfy the customer...

...but also the roars of delight required for the next round!

With their multi-protocol drivers, the Weintek touch panels can be used to similar attractions whatever the existing PLC is. A library of over 250 communication drivers is included. The only requirement is a communication port such as RS-232 serial or RJ-45 Ethernet.

NAPA and his French partner [Process Concept Automation](#) are available to discuss with you about any new automation or improvement of existing system, whatever domain your activity covers.

If you need a smart, simple and affordable man-machine interface, do not hesitate to contact us in order to discuss your requirements. We can show you a customized demonstration of our solutions.

