SCADA MANAGEMENT OF TECHNOLOGICAL PROCESS OF DISPENSING

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Injector it is intended for portion dispensing of loose products (grain-crops, products, small horns etc.) and is a component of the process equipment for packaging of loose products. The basic requirement shown to injector, a part of the weighed-packing equipment, consists in high efficiency reception at preservation of the set accuracy of dispensing. At such necessity there is a necessity for exact management injector as efficient control is one of the basic ways of increase of productivity.

Automation of technological process of dispensing on the basis of hardware-technical and software by a bloc no-modular principle which is easily reconstructed under changes of technological process is offered. Such approach differs high characteristics on reliability, noise immunity, self-testing and diagnostics of malfunctions of the equipment. By a construction principle such automated control systems of technological process (EXPERT TP) belong to the class of network control systems. Connection to the peripheral equipment and gauges is made through programmed logic controllers (PLC) and the modular devices connected by industrial information network PROFIBUS. The complex equipment is completely galvanic untied from an operated electric equipment (fig. 1).

In structure ASUTP there are following components:

1. Devices of transfer and transform information, and also channel formation elements;
2. Programmed logic controllers;
3. Servers, desktop and portable personal computers;
4. The general system software (SS);

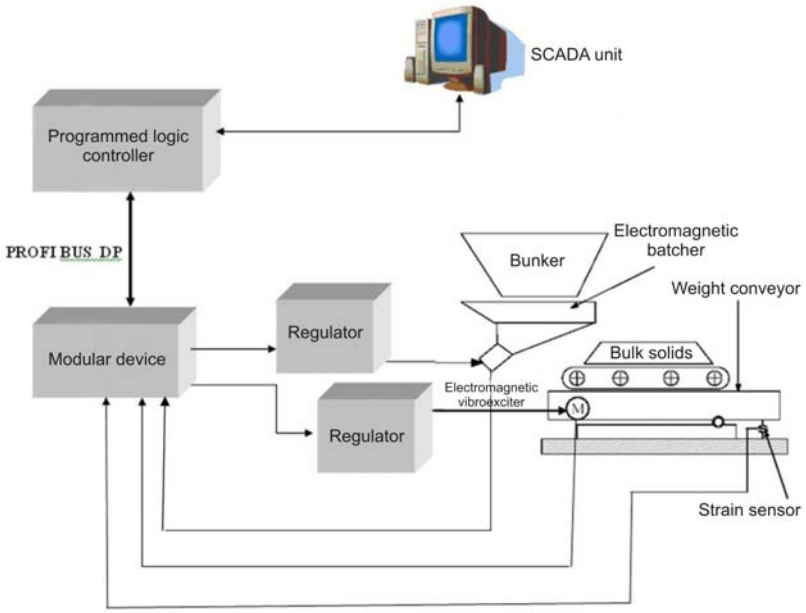

Fig. 1. Control system vibrating injector.

5. Specialised SS for visualisation to the operator or other expert of elements TP (SCADA (Supervisor Control And Data Acquisition) a package);

6. Logic channels (physical and program interfaces) information interchange.

For control system creation by technological process of dispensing the software package iFIX companies GE FANUC [1-3] is used.

We define tags for monitoring and management of technological process. These tags concern:

- Discrete entrance tag for information reception about conditions of the motor of tape conveyor Konveyer_inf;

For creation tag we execute a command «Add Database Block». The window «Add Block To Locally Loaded Database» (rice 2 opens.).

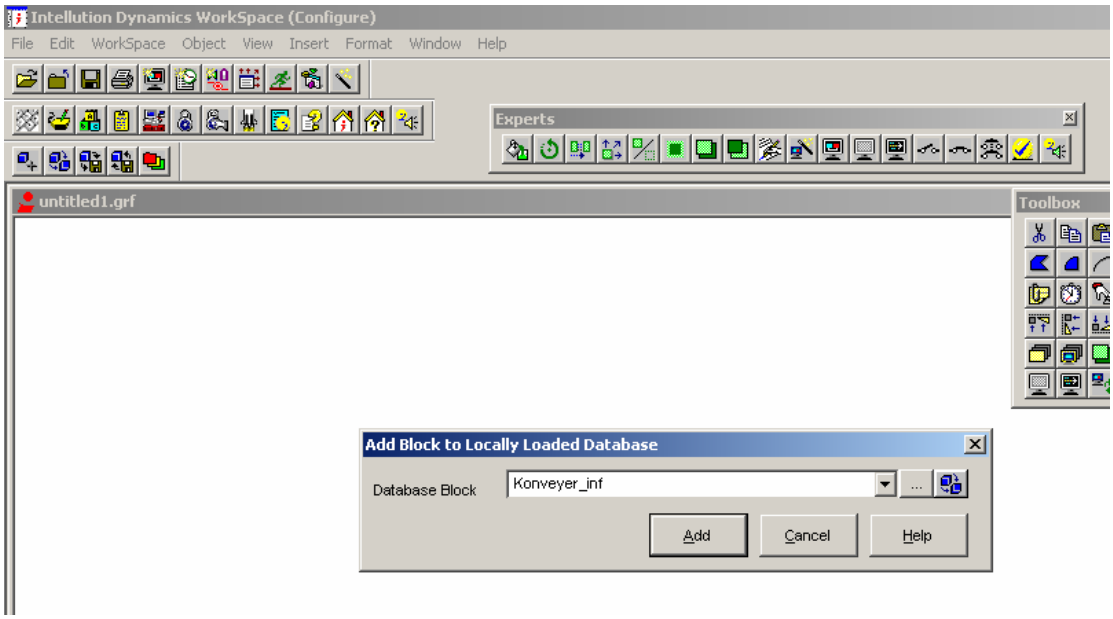

Fig. 2. Window «Add Block To Locally Loaded Database».

We enter a name of tag and it is pressed in button "Add". The window «Select a Block Type» from which we choose type «Digital Input» As a result opens and is pressed OK (fig. 3).

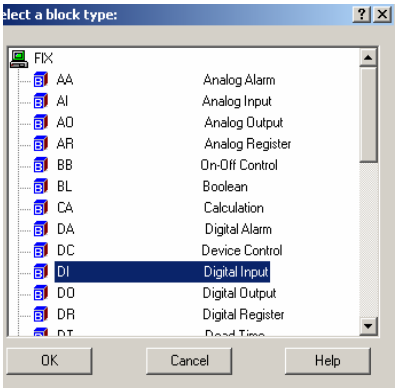

Fig. 3. Window «Digital Input».

As a result the window «Digital Input» for definition tag's parametres (fig. 4) opens.

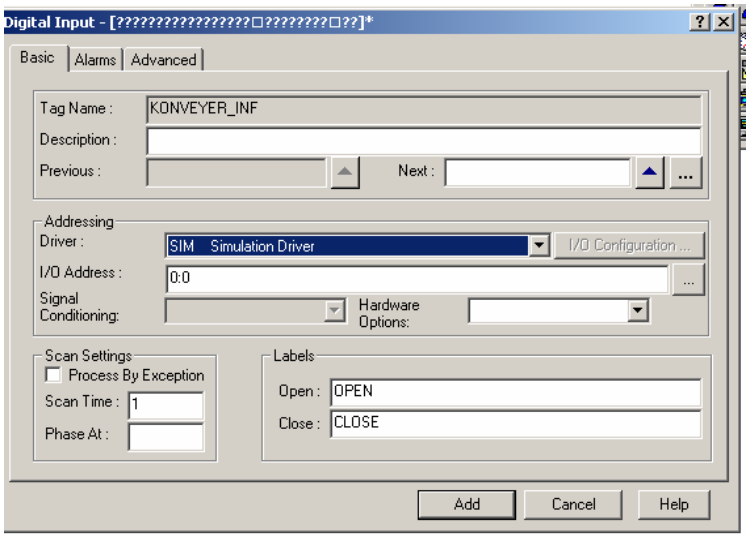

Fig. 4. Window of parametres discrete entrance of tag.

From the list «Driver» we define type of the driver for connection to technological process, in «I/O Address» we enter the actuation device address (PLC). From point «Alarm» we define parametres of alarms for tag's data.

After these installations of tag «Conveyor_inf» it will be connected by the concrete process equipment. Similarly we define the following tags:

- The discrete day off tag for on/off. The motor of tape conveyor **Motor_control;**
- Analogue entrance tag for reception of the information on speed of rotation of motor **Motor_speed_inf;**
- The analogue day off tag for management of speed of rotation of motor **Motor_speed_control;**
- Analogue entrance tag for reception of the information on speed of moving of tape conveyor **Konveyer_speeed_inf;**
- Analogue entrance tag for reception of the information on weight of dosed out material **Mass_inf**.

After definition of tags it is opened a graphic window (Workspace) iFIX. By means of graphic objects «Dynamo Set» we create a graphic image of technological process (fig. 5.).

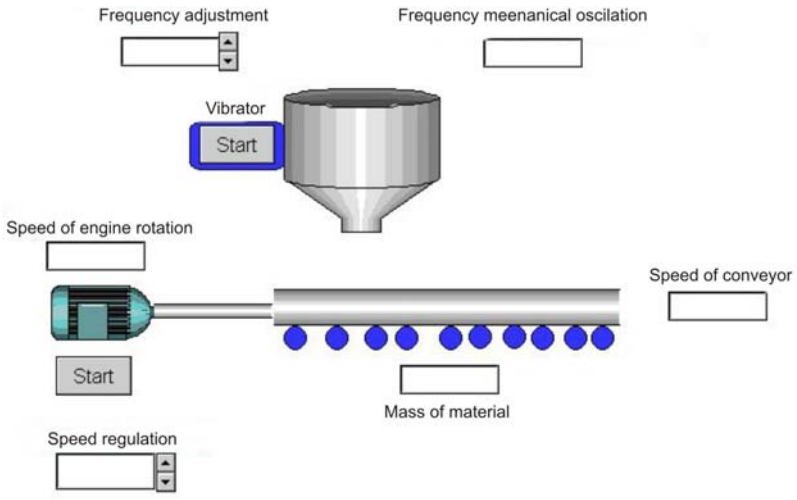

Fig. 5. The graphic interface of a control system.

Thus, thanks to such approach on all extent of technological process of dispensing it is carried out effective control and management of parameters of technological process in real time scale. In turn it leads to increase in quality of let out production.

THE CONCLUSION

1. For efficient control technological process of dispensing application of modern information technologies is comprehensible.

2. Access and management to the industrial information at all levels in real time is carried out by means of SCADA systems.

Literature

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