ATC-600 Controller

ATC-600 Controller

General Description

Taylor's ATC-600is a microprocessor-based logic controller to be used with transfer switches. This device is door-mounted and provides the operator with an at-a-glance overview of switch status and parameters, as well as key diagnostic data. Real-time values for volts and frequency can be viewed via the front panel LED display, along with an indication of the power source currently in use.

The ATC-600 continuously monitors either single-phase or three-phase voltages for Source 1, Source 2 and the load. When the Source 1 voltage or frequency is detected to be below the customer-programmed set points, transfer to Source 2 is initiated. When the Source 2 voltage and frequency are detected to be within the programmed parameters, the transfer occurs.

While the load is connected to Source 2, the ATC-600 continues to monitor Source 1. As soon as the Source 1 voltage and frequency return to within the programmed limits, and after a programmed time delay, a retransfer back to Source 1 is initiated.

The ATC-600 uses microprocessor technology to provide the operator with a vast array of selections. Depending on the application, the user can "customize" the ATC-600 to meet the particular application. A summary of several key selections is listed in **Table 25.4-4.**

Application Description

The ATC-600 is equipped to display history information either via the front panel or over PowerNet™. Source 1 and Source 2 run time, available time, and connect time are available, as well as Load energized time, number of transfers, and the date, time and reason for the last 16 transfers.

For communications capability, the ATC-600 can be equipped with a PONI card that will allow the user to communicate with the unit via Series III software. All settings for purchased options can be set from the faceplate of the unit or downloaded over PowerNet. Series III software allows for charting of key historical data, as well as providing the capabil-ity to monitor and control the transfer switch from a remote location.

For further information on PowerNet products and software, see Taylor's *Volume 3—Power Distribution and Control Assemblies, CA08100004E, Tab 22*.

Standards and Certifications

■ UL listed component

Technical Data

Table 25.4-7. ATC-600 Controller Specifications

Description	Specification		
Input control power range	65 Vac rms to 160 Vac rms (50/60 Hz)		
Voltage measurements of	Source 1 V_{AB} Source 1 V_{BC} Source 1 V_{CA}	Source 2 V_{AB} Source 2 V_{BC} Source 2 V_{CA}	Load V_{AB} Load V_{BC} Load V_{CA}
Voltage measurement range	0 to 790 Vac rms (50/60 Hz)		
Voltage measurement accuracy	±2% of nominal input voltage		
Frequency measurement for	Source 1 and Source 2		
Frequency measurement range	40 Hz to 80 Hz		
Frequency measurement accuracy	±0.1 Hz		
Undervoltage sensing	Source 1 and Source 2		
Undervoltage dropout range	50–90% of nominal voltage		
Overvoltage dropout range [1]	105–120% of nominal voltage		
Underfrequency dropout range [1]	90–100% of nominal frequency		
Overfrequency dropout range [1]	100–120% of nominal frequency		
Contact Outputs Two Form A contacts for generator start Four Form A contacts for control functions Three Form C contacts for control functions	 5A 250 Vac; 5A 30 Vdc 10A 250 Vac; 10A 30 Vdc 10A 250 Vac; 10A 30 Vdc		
Communications output over PowerNet (optional)	PONI (Product-Operated Network Interface)		
Front Panel Indications Automatic mode Test mode Program mode	 Blinking LED indicates automatic operation LED illuminated indicating the unit is in the TEST mode LED illuminated indicating the unit is in the program mode blinking LED indicates user is viewing set points in program mode		
LED lights to indicate	Source 1 available (amber), Source 2 available (amber), Source 1 connected (green), Source 2 connected (red), Source 1 preferred (red), Source 2 preferred (red), load energized (red)		
LED display to indicate	History information Set points Real-time clock		
Operating temperature range	Operation: –20°C to +70°C/Storage: –30°C to +85°C		

[1] Optional features.

All ATC-600 programmable features and associated set point possibilities with any required explanations are presented below. Remember, only features originally ordered and factory programmed will appear in the display.

Note: Changing the system nominal voltage or frequency set points will automatically change all the pickup and dropout settings to new default values.

Table 25.4-8. ATC-600 Programming Features/Set Points [1]

Programmable Feature Display	Display Explanation	Set Point Range	Factory Default Value	Measure
TDES	Time delay engine start timer	0–120 seconds	0:03	Minutes: seconds
TDNE	Time delay normal to emergency timer	0–1800 seconds	0:00	Minutes: seconds
TDEN	Time delay emergency to normal timer	0–1800 seconds	5:00	Minutes: seconds
TDEC	Time delay engine cool down timer	0–1800 seconds	5:00	Minutes: seconds
TDN	Time delay neutral timer	0–120 seconds	0:00	Minutes: seconds
PRF SRC	Preferred source	None 1 = source 1 0 = source 2	1	—
EXER	Plant exerciser enabled or disabled	0 = disabled 1 = enabled	1	—
MANTR	Re-transfer mode	0 = automatic 1 = PB return	0	—
CTDNE	Commitment to transfer in TDNE	0 = not committed 1 = committed	0	—
TMODE	Engine test with/without load transfer	0 = no load transfer 1 = load transfer 2 = disable test pattern	1	—
TPRE	Pre-transfer sub-network time delay	1–00 seconds	0:01	Minutes: seconds
PHASE	Number of system phases	1 or 3 [2]	3	—
TSEQ	Time delay load sequencing	1–120 seconds	0:10	Minutes: seconds
IPHASE	In-phase transition enabled or disabled	1 = enabled 0 = disabled	0	—
IPFD	In-phase transition frequency difference (Hertz)	0.0–3.0 Hz	1.0	Hertz
SYNC	Closed/in-phase transition synchronization timer	1–60 minutes	5	Minutes
TDEF	Time delay engine failure	0–60 seconds	6	Seconds

[1] Complete list of programming selections found in IB ATS-1005.

[2] Set to order specific value.