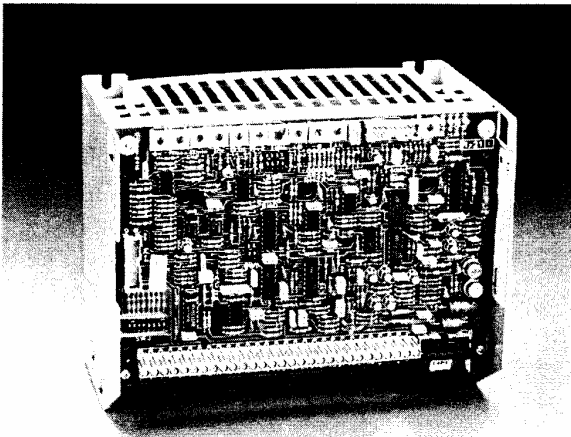


TPy2

NON-REGENERATIVE DC DRIVES



TPy2 Non-Regenerative DC Drives

The Amicon TYPACT Series TPy2 allows the speed of a DC motor to be varied by armature voltage control. The TPy2 is a non-regenerative full-wave control designed to regulate the speed or torque of non-overhauling loads, single or dual direction by contactor reversing. Fully isolated control circuitry, picket fence SCR firing and conservative ratings assure excellent performance and reliability. Program switches, L.E.D. indicators and aux. input capabilities offer flexibility and simplify installation, for both single drive and system applications.

STANDARD FEATURES:

- Inputs - all inputs are low level. No buffers or isolator cards required.
- Speed or torque control inputs.
- Full wave bridge.
- Modular construction - ribbon cable interface.
- Tachometer or armature voltage feedback.
- Speed and current meter outputs, isolated with trim adjustment.
- 1200 PIV rated SCR's with transient protection.
- 150% overcurrent capability for 60 seconds.
- Hinged/Removable front panel allows easy access to power components.
- Aux. Summing Reference Input.
- Integral Field Supply.
- Transient Suppression.

1/4 - 10HP

- SINGLE PHASE 50/60 Hz AC INPUT
- FULL WAVE OUTPUT
- FULLY ISOLATED
- TACH OR VOLTAGE FEEDBACK
- L.E.D. INDICATORS

TYPACT

ADJUSTMENTS:

- Maximum and minimum speed.
- Speed Loop -
integral and proportional compensation.
- Current Loop -
integral and proportional compensation.
- Current Limit.
- Acceleration and deceleration rate (Optional).
- IR compensation.
- Current and Speed monitor output scaling.

SWITCH SELECTABLE FUNCTIONS:

AC Input Voltage:

TPy2-151X or 151A 115/230VAC

TPy2-301A or 421A 220/240, 380/415VAC

TPy2-151Z, 301Z or 421Z 220/240, 380/415VAC

50 or 60 Hz

DC Tach input level (5 to 300VDC)

Internal/External current limit set point.

OPTIONAL FEATURES:

The TPy2 series of drives can be supplied in chassis form, single drive preassembled panel or in multi-drive systems. Refer to the front of the DC Controls Section for a complete description of various panel options. Contact your AMICON local representative or distributor for multi-drive system quotations.

Standard "y" Control Interface Options mount behind the front board of the TPy2 series drives. Options for follower drives, dancer control, speed trip, winders, etc. are listed in the Standard "y" Control Interface Options Section of the catalog.

Refer to the Standard "y" Control Interface Options Section for other available options. Predesigned PD panels are available.

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TPy2 NON-REGENERATIVE DC DRIVES			
Model Number	Input Code	1 Phase AC Input	HP Range
TPy2-151	X	115	1/4 - 1
	A	230	1/4 - 2
TPy2-301	A	230	3 - 5
TPy2-421	A	230	7 1/2 - 10

NOTES:

10 HP unit rated 100% continuous duty only.

Refer to the front of the DC Drives Controls Section for a complete explanation of the functional and panel options.

Refer to the Custom System Options Section for speed meters, potentiometers, operator stations, pilot lights, etc.

Refer to the Standard "y" Control Interface Option Section for interface option cards, i.e.: preset speeds, dancer, follower, relay cards, etc.

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FUNCTIONAL OPTIONS	
Option Code	Description (Choose only one functional option)
- C	Chassis Only
- F	- C with AC input fuses and mounting block
- PD	Pre-designed "PD" panel

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PANEL OPTIONS	
Option Code	Pre-designed "PD" Panel Options
- DB	Dynamic Braking
- CB	Circuit Breaker *
- N1	NEMA 1 Enclosure
- N4	NEMA 4 Enclosure (custom)**
- N12	NEMA 12 Enclosure (custom)**

* NEMA 1 rating, door mounted.

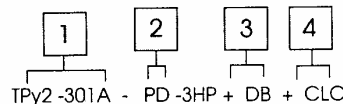
** Contact factory for NEMA 4 or 12 custom enclosures.

ORDERING INSTRUCTIONS

Select the TPy2 Model Number and HP required. Choose the functional option and any interface options desired, and add to the model number. The TPy2 can accommodate up to three interface options. Please specify HP when ordering.

Example

The model number for a 3HP non-regenerative control, chassis with input fuses, 230VAC input, Armature Voltage Feedback, Dynamic Braking and Closed Loop Controller (PID)

**SPARES**

FUSES	
Part No.	Description
A25X20	TPy2-151 AC Line Fuse
A50P40	TPy2-301 AC Line Fuse
A50P50	TPy2-421 AC Line Fuse
OMEGA 250mA	Control Fuse
BUSS MDA2	Field Fuse

PC BOARDS	
Part No.	Description
Ry21a	Regulator Board

DIMENSIONS (Inches)

Model No.	Chassis				Panel			NEMA 1A Enclosure		
	H"	W"	D"	lbs.	H"	W"	D"	H"	W"	D"
TPy2-151	6.28	8.00	4.875	4	21	21	5.8	24	24	10
301	6.875	9.25	6.594	8	30	24	8.09	30	24	15
421	6.875	9.25	6.594	8	30	24	8.09	30	24	15

TERMINAL INPUT AND OUTPUTS

Term	Designation	Function	I/O
1	DT	Tach input - High	I
2	OV	Circuit Common	-
3	+10	Ref. Supply +	O
5	Ref 1	Ref. Input (No ramp)	I
6	Ref 2	Ref. Input (Aux. Unscaled)	I
7	n_0	Min. Speed Pot	O
8	OV	Circuit Common	-
10	UV	Speed Loop Output	O
11	IRI	Scaled I Reference Input	I
13	QI _{an}	Current Monitor	O
14	QDT _n	Speed Monitor	O
15	I _{max}	I Limit Input	I
16	I _{dn}	I Limit External Trim	O
19	+24	Enable Voltage Supply	O
20	BIN	Block Integrator	I
21	BG	Drive Enable	I
22		Aux -10V Supply	O
23	IC	Armature Feedback	I
24	ID	Armature Feedback	I
25	QE _n	Normalized VFB	O
26	ZAG	O Reference to Ramp	I
27	BAG	Ramp Disable	I
28	IAG	Accel/decel Ramp Ref.	I
29	QJ	Inertia Comp.	O
30	QAG	Ramp Output	O
	+24		O
	+15		O
	-15		O
	OV	Circuit Common	-

I = Current

n = Speed

ADJUSTMENTS

n_{max}	Max. Speed
I_n	Speed regulator integral
n_{min}	Minimum speed
P_n	Speed regulator proportional
I_{AN}	Current monitor output
DT_N	Speed monitor output
I_{dN}	Current limit
RxI	IR Compensation
-a	Deceleration time
+a	Acceleration time
Offset	Speed regulator offset

LEDS

BLG	General Block
BAG	Ramp Disable
I_{dN}	Operation in current limit
± 15	15V Supply

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STANDARD "y" CONTROL INTERFACE OPTIONS

Option Code	Description	Option Code	Description	Option Code	Description
Ay	Auxiliary Amplifier	* BDAy	Binary to Analog Converter or Multiplying Converter	RAy4	4 Parallel Relay Board
Ay (P)	Auxiliary Amplifier (High Power)	* CLC	Closed Loop Controller (PID)	RAy41	4 Individual Relay Board
* ACUy	Analog Mathematical Calculation	CVy	At Speed Signal	RRy41 1-1	4 Reed Relay, Form "C" Board
ADy	Analog to Encoder Simulator	* DDAy	BCD to Analog Converter	RSy	Quad Analog Switch
AGy	Ramp Function Generator	* FSy-1	Frequency Synchronizer	RVy	Speed Level Detector
AGy (P)	Ramp Function Generator (High Power)	* FVy	Encoder to Analog Signal Converter or Differential Pulse Train Input to Analog Converter	TVO-1	High Voltage Feedback Isolator
* ALy	Power Supply			XMy	Ribbon Cable to Terminal Adaptor
* ALy-P	Power Supply (Precision)	IMTy	Input Scaling		
APSy	Speed Range Extender	MTy	Tach Loss Indicator		

Note: A maximum of (3) option slots are available. Options with * are double wide providing space for a maximum of (1) double and (1) single wide option card.

SPECIFICATIONS

SERVICE CONDITIONS

Altitude (Standard)	3,300 ft(1000m) Max.
Ambient Temperatures	0 to 40°C (32° to 104°F)
AC Line Voltage Variation	±10%
AC Line Frequency Variation	±2Hz
Service Factor	1.0
Maximum Load	150% for 1 minute
Speed Reference Potentiometer	1 to 10K, 1/2 W 2K typical
AC Input Voltages (50 or 60Hz)	115/230 or 220/240, 380/415

ADJUSTMENT RANGE

Maximum Speed	80 to 120%
Minimum Speed	0 to 20% with 2K pot
Accel/Decel	0.5 to 5 sec
Current Limit	0 to 150%
IR (load) compensation	0 to 20%

PERFORMANCE CHARACTERISTICS

Operating Range	0 to rated speed
Range for quoted regulation	
Armature feedback with IR Comp	20:1
DC Tachometer Feedback	100:1
Speed Regulation for a 95% load change	
Armature feedback with IR Comp	2 to 5%
Type APY DC Tachometer	1%*

*% of motor base speed